

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,0 I 1
 Edition : 14.11.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 500
 Injection pump
 Pump designation : PE6P110A32ORS413W
 EP type number : 0 411 816 158
 Governor
 Governor design. : RQV250...1200PA499
 Governer no. : 0 421 813 242

Customer-spec. information
 Customer : VOLVO

Engine : TD70F

1st version kW : 174.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 12.5...12.7

100H.: (12.2...13.0)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.2...5.4

Del.quantity cm3/ : 1.6...2.0

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 750

Del.quantity cm3/ : 125.0...127.0

1000H.: (122.0...130.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 11.20

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1355...1385

4th speed 1/min : 1500

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.70
Speed 1/min : 250
C-rod trav.mm : 5.20...5.40

CONSTANT REGULATION

Speed 1/min : 400...510

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 750
Contr.-rod trav.mm: 12.20...12.30

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.50...9.60
2nd pressure hPa : 410
C-rod trav.mm : 11.50...11.60
3rd pressure hPa : 200
C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 75.0...78.0
1000H.: (72.5...80.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 A
 Edition : 12.09.86
 Superceeded : 10.85
 Calibrating oil : ISO-4113

Combination no. : 0 401 846 505

Injection pump
 Pump designation : PE6P110A32ORS483
 EP type number : 0 411 816 159
 Governor
 Governor design. : RQV250...1200PA499-1
 Govenrer no. : 0 421 813 460

Customer-spec. information
 Customer : VOLVO

Engine : TD71F

1st version kW : 162.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.30...12.40

Del.quantity cm3/ : 12.7...12.9

100H.: (12.4...13.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm3/ : 1.6...2.0

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 127.0...129.0

1000H.: (124.0...132.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 11.30

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1380...1410

4th speed 1/min : 1500

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 5...13

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.80
Speed 1/min : 250
C-rod trav.mm : 5.30...5.50

CONSTANT REGULATION

Speed 1/min : 300...410

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 12.30...12.40

Measurement

Speed 1/min : 500
C-rod trav.mm : 10.20...10.30
2nd pressure hPa : 560
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 300
C-rod trav.mm : 10.40...10.60

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 85.0...88.0
1000H.: (82.0...91.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 A 1
 Edition : 12.09.86
 Superceeded : 10.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 506
 Injection pump
 Pump designation : PE6P110A32ORS483-1
 EP type number : 0 411 816 160
 Governor
 Governor design. : RQV250...1200PA499-2
 Governor no. : 0 421 813 461

Customer-spec. information
 Customer : VOLVO

Engine : TD71FS

1st version kW : 180.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00

A05

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.10...13.20

Del.quantity cm3/ : 14.2...14.4

100H.: (13.9...14.7)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm3/ : 1.6...2.0

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 300

Sleeve travel mm: 1.70...2.00

3rd speed 1/min: 400

Sleeve travel mm: 2.50...2.80

4th speed 1/min: 700

Sleeve travel mm: 4.40...4.70

5th speed 1/min: 1200

Sleeve travel mm: 7.60...7.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 142.0...144.0

1000H.: (139.0...147.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Setting point:

Speed 1/min : 1200

Contr.-rod trav.mm: 16.5

Testing:

1st c-rod trav.mm : 12.10

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1385...1415

4th speed 1/min : 1500

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.80

Speed 1/min : 250

C-rod trav.mm : 5.30...5.50

CONSTANT REGULATION

Speed 1/min : 300...410

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.10...13.20

Measurement

Speed 1/min : 500

C-rod trav.mm : 10.20...10.30

2nd pressure hPa : 700

C-rod trav.mm : 12.90...13.00

3rd pressure hPa : 300

C-rod trav.mm : 10.60...10.80

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del. quantity cm³/ : 85.0...88.0

1000H.: (82.0...91.0)

Remarks:

A06

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 Y3
Edition : 09.03.87
Superceeded : 10.85
Calibrating oil : ISO-4113

Combination no. : 0 401 846 510

Injection pump
Pump designation : PE6P12QA32ORS415-1
EP type number : 0 411 826 123
Governor
Governor design. : RQ250/900PA754
Governor no. : 0 421 801 288

Customer-spec. information
Customer : DAF

Engine : DKX 1160E

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
Contr.-rod trav.mm: 9.00...12.00

A07

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁰ : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 875

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 17.1...17.3

100H.: (16.8...17.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 6.7...6.9
Del.quantity cm3/ : 1.4...2.0
100H.: (1.1...2.3)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 850
Cont.-rod travelmm: 14.10...14.90

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 875
Charge press. hPa : 700
Del.quantity cm3/ : 171.0...173.0
1000H.: (168.0...176.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 850
Contr.-rod trav.mm: 14.5

Testing:
1st c-rod trav.mm : 10.00
Speed 1/min : 925...940
2nd c-rod trav.mm : 4.00
Speed 1/min : 995...1025
4th speed 1/min : 1150
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250
Contr.-rod trav.mm: 6.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.40
Speed 1/min : 250
C-rod trav.mm : 6.40...6.60
C-rod trav.mm : 2.00
Speed 1/min : 445...485

TORQUE CONTROL

Dimension a mm : 0.50
Torque-control curve - 1st version
1st speed 1/min : 875
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 600
C-rod trav.mm : 12.00...12.20
3rd speed 1/min : 700
C-rod trav.mm : 11.60...11.80
4th speed 1/min : 760
C-rod trav.mm : 11.20...11.50

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 11.60...11.70

Measurement

Speed 1/min : 600
1st pressure hPa : -
C-rod trav.mm : 10.40...10.60
2nd pressure hPa : 300
C-rod trav.mm : 11.10...11.20
3rd pressure hPa : 250
C-rod trav.mm : 10.40...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 173.0...177.0
1000H.: (170.0...180.0)
Charge press. hPa : -
Speed 1/min : 600
Del.quantity cm3/ : 140.0...142.0
1000H.: (137.0...145.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 B 1
 Edition : 28.11.86
 Superceeded : 7.86
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 515
 Injection pump
 Pump designation : PE6P110A32ORS494
 EP type number : 0 411 816 162
 Governor
 Governor design. : RQV300...1100PA435-1
 Governer no. : 0 421 813 496

Customer-spec. information
 Customer : VOLVO

Engine : TD 716

1st version kW : 147.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 12.2...12.4

100H.: (11.9...12.7)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.3...4.5

Del.quantity cm3/ : 1.2...1.6

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
 Sleeve travel mm: 1.40...1.50

2nd speed 1/min: 420
 Sleeve travel mm: 2.50...2.90

3rd speed 1/min: 800
 Sleeve travel mm: 4.80...5.10

4th speed 1/min: 1150
 Sleeve travel mm: 8.10...8.30

5th speed 1/min: 1220
 Sleeve travel mm: 8.90...9.20

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1170

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

Del.quantity cm3/ : 122.0...124.0

1000H.: (119.0...127.0)

Dispersion cm3/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 10.90

Speed 1/min : 1140...1150

2nd c-rod trav.mm : 4.00

Speed 1/min : 1220...1250

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.80

Speed 1/min : 300

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 300...470

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.90...12.00

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.90...10.00

2nd pressure hPa : 510

C-rod trav.mm : 11.70...11.80

3rd pressure hPa : 290

C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del. quantity cm³/ : 87.0...89.0

1000h.: (84.0...92.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 B 2
Edition : 02.12.86
Superceeded : 7.86
Calibrating oil : ISO-4113

Combination no. : 0 401 846 516

Injection pump
Pump designation : PE6P110A32ORS494
EP type number : 0 411 816 162
Governor
Governor design. : RQV300...1100PA435-2
Governor no. : 0 421 813 497

Customer-spec. information
Customer : VOLVO

Engine : TD 71G
1st version kW : 136.0

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 10.2...10.4

100H.: (9.9...10.2)

Dispersion cm3/ : 0.4

100H.: (0.8)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 4.6...4.8
Del.quantity cm3/ : 1.2...1.6
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.40...1.50
2nd speed 1/min: 400
Sleeve travel mm: 2.30...2.60
3rd speed 1/min: 800
Sleeve travel mm: 4.80...5.00
4th speed 1/min: 1150
Sleeve travel mm: 8.10...8.30
5th speed 1/min: 1220
Sleeve travel mm: 8.90...9.20

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1180
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Charge press. hPa : 1000
Del.quantity cm3/ : 102.0...104.0
1000H.: (99.0...102.0)
Dispersion cm3/ : 4.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 54...62

Testing:

1st c-rod trav.mm : 9.70
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1215...1245
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 6...14

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.10
Speed 1/min : 300
C-rod trav.mm : 4.60...4.80

CONSTANT REGULATION

Speed 1/min : 300...500

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 10.70...10.80

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 9.90...10.00
2nd pressure hPa : 340
C-rod trav.mm : 10.50...10.60
3rd pressure hPa : 290
C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000
Speed 1/min : 1000
Del.quantity cm³/ : 104.5...107.5
1000H.: (101.0...111.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm³/ : 87.0...89.0
1000H.: (84.0...92.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 A 2
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 846 523

Injection pump
Pump designation : PE6P110A32ORS483-2
EP type number : 0 411 816 167
Governor
Governor design. : RQV250...1200PA499-3
Governor no. : 0 421 813 515

Customer-spec. information
Customer : VOLVO

Engine : TD71G

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.20...11.30

Del.quantity cm³/ : 11.0...11.2

100H.: (10.7...11.5)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 5.1...5.3
Del.quantity cm³/ : 1.6...2.0
100H.: (-)
Dispersion cm³/ : 0.3
100H.: (0.6)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1200
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Charge press. hPa : 900
Del.quantity cm³/ : 110.0...112.0
1000H.: (107.0...115.0)
Dispersion cm³/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:

1st c-rod trav.mm : 10.20
Speed 1/min : 1260...1270
2nd c-rod trav.mm : 4.00
Speed 1/min : 1370...1400
4th speed 1/min : 1500
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED 1

Control-lever
position degrees: 5...13

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.60
Speed 1/min : 250
C-rod trav.mm : 5.10...5.30

CONSTANT REGULATION

Speed 1/min : 300...410

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 11.20...11.30

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.80...9.90
2nd pressure hPa : 470
C-rod trav.mm : 11.00...11.10
3rd pressure hPa : 300
C-rod trav.mm : 10.10...10.30

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm³/ : 84.0...86.0
1000H.: (81.0...89.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 9,8 B 3
 Edition : 10.12.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 525
 Injection pump
 Pump designation : PE6P120A32ORS438-1
 EP type number : 0 411 826 133
 Governor
 Governor design. : RQV275...1200PA648-3
 Governor no. : 0 421 813 535

Customer-spec. information
 Customer : RVI

Engine : MIDS062030

1st version kW : 150.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 075

Outside diameter
 x Wall thickness
 x Length mm : 8.00X2.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 11.20...11.30

Del.quantity cm3/ : 13.3...13.5

100H.: (13.0...13.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 7.50...7.70

Del.quantity cm3/ : 1.5...2.1

100H.: (1.2...2.4)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 400

Sleeve travel mm: 3.50...3.80

3rd speed 1/min: 850

Sleeve travel mm: 6.10...6.40

4th speed 1/min: 1200

Sleeve travel mm: 8.40...8.60

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1210

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Del.quantity cm3/ : 133.0...135.0

1000H.: (130.0...138.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 118...126

Testing:

1st c-rod trav.mm : 10.20

Speed 1/min : 1255...1265

2nd c-rod trav.mm : 4.000

Speed 1/min : 1360...1390

4th speed 1/min : 1500

C-rod trav.mm : 11.20...11.30

LOWEST RATED SPEED I

Control-lever

position degrees: 65...73

Testing:

Speed 1/min : 200

C-rod trav.mm min : 9.30

Speed 1/min : 275

C-rod trav.mm : 6.20...6.40

CONSTANT REGULATION

Speed 1/min : 275...360

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750

Del. quantity cm³/ : 116.0...122.0

1000H.: (113.0...125.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 S
 Edition : 09.03.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 529
 Injection pump
 Pump designation : PE6P120A32ORS3186
 EP type number : 0 411 826 756
 Governor
 Governor design. : RQV250..102SPA657-13
 Govenner no. : 0 421 813 592

Customer-spec. information
 Customer : VOLVO

Engine : TD102F

1st version kW : 220.0
 Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.40...11.50

Del. quantity cm³/ : 19.6...19.9

100H.: (19.3...20.2)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 3.9...4.1

Del. quantity cm³/ : 1.7...2.1

100H.: (1.4...2.4)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250
 Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 430
 Sleeve travel mm: 3.50...3.80

3rd speed 1/min: 700
 Sleeve travel mm: 6.40...6.60

4th speed 1/min: 900
 Sleeve travel mm: 6.40...6.60

5th speed 1/min: 1080
 Sleeve travel mm: 8.30...8.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

Del. quantity cm³/ : 196.5...199.5
1000H.: (193.5...202.5)
Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 10.40
Speed 1/min : 1055...1065
2nd c-rod trav.mm : 4.00
Speed 1/min : 1110...1140
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 4...12

Testing:

Speed 1/min : 100
C-rod trav.mm min : 5.40
Speed 1/min : 250
C-rod trav.mm : 3.90...4.10

CONSTANT REGULATION

Speed 1/min : 250...350

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 11.40...11.50

Measurement

Speed 1/min : 500

1st pressure hPa : --
C-rod trav.mm : 8.90...9.10
2nd pressure hPa : 770
C-rod trav.mm : 11.20...11.30
3rd pressure hPa : 420
C-rod trav.mm : 9.40...9.60

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del. quantity cm³/ : 148.5...151.5
1000H.: (145.5...154.5)

Remarks:

A19

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 Y5
Edition : 02.12.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 536
Injection pump
Pump designation : PE6P120A32ORS415-1
EP type number : 0 411 826 123
Governor
Governor design. : RQ250/1000PA417-3
Governor no. : 0 421 801 267

Customer-spec. information
Customer : DAF

Engine : DKX 1160SB

TEST BENCH REQUIREMENTS

Calibrating-oil inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder assembly : 1 688 901 019

Opening pressure, bar : 207...210

Perforated-plate diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter x Wall thickness x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant. per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90 : (2.75...2.95)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 850

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 18.9...19.1
100H.: (18.6...19.4)

Dispersion cm3/ : 0.5
100H.: (0.9)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 6.7...6.9
Del.quantity cm3/ : 1.4...2.0
100H.: (1.1...2.3)

Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 700
Contr.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 850
Charge press. hPa : 700
Del.quantity cm3/ : 189.0...191.0
1000H.: (186.0...194.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

Setting point:
Speed 1/min : 700
Contr.-rod trav.mm: 16.0

Testing:
1st c-rod trav.mm : 10.70
Speed 1/min : 1035...1050
2nd c-rod trav.mm : 4.00
Speed 1/min : 1100...1130
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 250
Contr.-rod trav.mm: 6.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.40
Speed 1/min : 250
C-rod trav.mm : 6.40...6.60
C-rod trav.mm : 2.00
Speed 1/min : 450...490

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 850
C-rod trav.mm : 11.90...12.00
2nd speed 1/min : 1000
C-rod trav.mm : 11.80...12.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 600
Pressure hPa : 700
Contr.-rod trav.mm: 11.70...11.80

Measurement

Speed 1/min : 600

1st pressure hPa : -
C-rod trav.mm : 10.30...10.50
2nd pressure hPa : 310
C-rod trav.mm : 11.40...11.50
3rd pressure hPa : 250
C-rod trav.mm : 10.60...10.90

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 600
Del. quantity cm³/ : 140.0...142.0
1000H.: (137.0...145.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 M
Edition : 12.09.86
Superceeded : 1.86
Calibrating oil : ISO-4113

Combination no. : 0 401 846 741

Injection pump
Pump designation : PE6P110A32OLS3814
EP type number : 0 411 816 721
Governor
Governor design. : RQV350...115OPA378R
Governor no. : 0 421 813 294

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421

1st version kW : 159.0
Speed 1/min: 2300
2nd version kW : 159
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...110

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

A22

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav. mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing⁰CS: 0-45-120-165-240-285
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav. mm: 12.70...12.80

Del. quantity cm³/ : 13.4...13.6

100H.: (13.1...13.8)

Dispersion cm³/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 8.2...8.4

Del. quantity cm³/ : 1.3...1.9

100H.: (1.0...2.1)

Dispersion cm³/ : 0.4

100H.: (0.7)

1st speed 1/min: 1130

Contr.-rod trav. mm: 12.7...12.8

Del. quantity cm³/ : 12.3...12.5

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350

Contr.-rod trav. mm: 8.20...8.40

Del. quantity cm³/ : 1.3...1.9

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 0.60...0.90

2nd speed 1/min: 580

Sleeve travel mm: 3.60...3.70

3rd speed 1/min: 870

Sleeve travel mm: 5.20...5.30

4th speed 1/min: 1150

Sleeve travel mm: 7.60

SLEEVE POSITION
Control-lever position
Degree: -1
Speed 1/min: 1150
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm3/ : 134.0...136.0
1000H.: (131.5...138.5)
Dispersion cm3/ : 4.00
1000H.: (8.00)

2nd version
Speed 1/min: 1130
Del.quantity cm3/ : 123.0...125.0
1000H.: (120.0...128.0)
Dispersion cm3/ : 4.0
1000H.: (8.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:
1st c-rod trav.mm : 11.70
Speed 1/min : 1180...1190
2nd c-rod trav.mm : 4.00
Speed 1/min : 1285...1315
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

2nd version
Control-lever
position degrees: 62...70

Testing:
1st c-rod trav.mm : 11.70
Speed 1/min : 1180...1190
2nd c-rod trav.mm : 4.00
Speed 1/min : 1285...1315
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 12...20

Testing:
Speed 1/min : 100
C-rod trav.mm min : 8.50
Speed 1/min : 350
C-rod trav.mm : 8.20...8.40

CONSTANT REGULATION

Speed 1/min : 375...485

SWITCH-OVER POINT
Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm3/ : 113.0...117.0
1000H.: (110.0...120.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : 1150
Del.quantity cm3/ : 93.0...97.0 *
1000H.: (90.0...100.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)
Speed 1/min : -
Del.quantity cm3/ : -
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 0
Edition : 12.09.86
Superceeded : 5.84
Calibrating oil : ISO-4113

Combination no. : 0 401 846 745

Injection pump
Pump designation : PE6P110A32ORS3080
EP type number : 0 411 816 722
Governor
Governor design. : RQV250...1100PA589
Governor no. : 0 421 813 307

Customer-spec. information
Customer : VOLVO

Engine : TD100GA

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.30...12.40

Del.quantity cm³/ : 16.7...16.9

100H.: (16.4...17.2)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 3.8...4.0

Del.quantity cm³/ : 1.5...1.9

100H.: (1.2...2.1)

Dispersion cm³/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 370

Sleeve travel mm: 2.60...3.00

3rd speed 1/min: 430

Sleeve travel mm: 3.50...3.90

4th speed 1/min: 1160

Sleeve travel mm: 8.10...8.30

5th speed 1/min: 1210

Sleeve travel mm: 9.40...9.60

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm³/ : 167.0...169.0

1000H.: (164.0...172.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

A25

Control-lever
position degrees: 59...67

Testing:

1st c-rod trav.mm : 11.30

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00

Speed 1/min : 1220...1250

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 4...12

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.30

Speed 1/min : 250

C-rod trav.mm : 3.80...4.00

CONSTANT REGULATION

Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 12.30...12.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.80...9.90

2nd pressure hPa : 610

C-rod trav.mm : 12.10...12.20

3rd pressure hPa : 280

C-rod trav.mm : 10.10...10.30

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 121.0...124.0

1000H.: (118.0...127.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 01
 Edition : 12.09.86
 Superceeded : 12.82
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 752
 Injection pump
 Pump designation : PE6P110A32ORS3080
 EP type number : 0 411 816 722
 Governor
 Governor design. : RQV250...1025PA589
 Govenrer no. : 0 421 813 332

Customer-spec. information
 Customer : VOLVO

Engine : TD100GA-TD101GA

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 0 681 343 009
 Opening
 pressure, bar : 172...175
 Test inj. tubing : 1 680 750 015
 Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values _____

START OF DELIVERY

Test pressure, bar: 25...27
 Pr. stroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 12.30...12.40

 Del.quantity cm3/ : 16.7...16.9

 100H.: (16.4...17.2)

 Dispersion cm3/ : 0.4

 100H.: (0.7)

 2nd speed 1/min: 250.0
 Contr.-rod trav. m: 3.8...4.0
 Del.quantity cm3/ : 1.5...1.9
 100H.: (1.2...2.1)
 Dispersion cm3/ : 0.3
 100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250
 Sleeve travel mm: 1.20...1.30
 2nd speed 1/min: 370
 Sleeve travel mm: 2.60...3.00
 3rd speed 1/min: 430
 Sleeve travel mm: 3.50...3.90
 4th speed 1/min: 1090
 Sleeve travel mm: 8.50...8.70
 5th speed 1/min: 1150
 Sleeve travel mm: 9.60...9.80

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1090
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Charge press. hPa : 900
 Del.quantity cm3/ : 167.0...169.0
 1000H.: (164.0...172.0)
 Dispersion cm3/ : 4.00
 1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 61...67

Testing:
1st c-rod trav.mm : 11.30
Speed 1/min : 1085...1095
2nd c-rod trav.mm : 4.00
Speed 1/min : 1140...1170
4th speed 1/min : 1300
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 4...12

Testing:
Speed 1/min : 100
C-rod trav.mm min : 5.30
Speed 1/min : 250
C-rod trav.mm : 3.80...4.00

CONSTANT REGULATION
Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 12.30...12.40

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.80...9.90
2nd pressure hPa : 610
C-rod trav.mm : 12.10...12.20
3rd pressure hPa : 280
C-rod trav.mm : 10.10...10.30

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 121.0...124.0
1000H.: (118.0...127.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 Q8
Edition : 23.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 757
Injection pump
Pump designation : PE6P110A32ORS3108
EP type number : 0 411 816 727
Governor
Governor design. : RQV250...1100PA649
Governor no. : 0 421 813 346

Customer-spec. information
Customer : VOLVO

Engine : THD100EA

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025
Inlet press., bar : 1.50
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 015
Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27
Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 9.00...9.10

Del.quantity cm3/ : 9.2...9.4

100H.: (8.9...9.7)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 5.3...5.5
Del.quantity cm3/ : 3.0...3.2
Dispersion cm3/ : 0.3
100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250
Sleeve travel mm: 1.10...1.30
2nd speed 1/min: 500
Sleeve travel mm: 4.10...4.90
3rd speed 1/min: 700
Sleeve travel mm: 6.30...6.70
4th speed 1/min: 950
Sleeve travel mm: 6.30...6.70
5th speed 1/min: 1100
Sleeve travel mm: 7.00...7.50

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1175
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 92.0...94.0
1000H.: (89.0...97.0)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 61...69

Testing:

1st c-rod trav.mm : 8.00
Speed 1/min : 1160...1170
2nd c-rod trav.mm : 4.00
Speed 1/min : 1220...1250
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.80
Speed 1/min : 250
C-rod trav.mm : 5.30...5.50
C-rod trav.mm : 2.00
Speed 1/min : 350...410

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 Q2
 Edition : 23.09.86
 Superceeded : 5.84
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 758
 Injection pump
 Pump designation : PE6P110A32ORS3108Z
 EP type number : 0 411 816 728
 Governor
 Governor design. : RQV250...1100PA649
 Governor no. : 0 421 813 346

Customer-spec. information
 Customer : VOLVO

Engine : THD100EB

1st version kW : 160.0
 Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 10.50...10.60

Del.quantity cm3/ : 12.2...12.4

100H.: (11.9...12.7)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm3/ : 3.0...3.4

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 500

Sleeve travel mm: 4.10...4.90

3rd speed 1/min: 700

Sleeve travel mm: 6.30...6.70

4th speed 1/min: 950

Sleeve travel mm: 6.30...6.70

5th speed 1/min: 1100

Sleeve travel mm: 7.00...7.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1175

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 750

Del.quantity cm3/ : 122.0...124.0

1000H.: (119.0...127.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00

Speed 1/min : 1225...1255

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.80

Speed 1/min : 250

C-rod trav.mm : 5.30...5.50

C-rod trav.mm : 2.00

Speed 1/min : 350...410

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 750

Contr.-rod trav.mm: 10.50...10.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.60...9.80

2nd pressure hPa : 290

C-rod trav.mm : 9.90...10.00

3rd pressure hPa : 330

C-rod trav.mm : 10.20...10.40

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 106.0...108.0

1000H.: (103.0...111.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 Y
Edition : 09.03.87
Superceeded : 5.85
Calibrating oil : ISO-4113
Combination no. : 0 401 846 764
Injection pump
Pump designation : PE6P110A72ORS3115
EP type number : 0 411 816 735
Governor
Governor design. : RQV200...1100PA468
Governor no. : 0 421 813 364

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DN11 01

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.30...3.40
: (3.25...3.45)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 12.40...12.50

Del.quantity cm³/ : 11.9...12.1

100H.: (11.7...12.3)

Dispersion cm³/ : 0.5

100H.: (0.7)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm³/ : 2.0...2.4

Dispersion cm³/ : 0.2

100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 0.90...1.00

2nd speed 1/min: 360

Sleeve travel mm: 2.60...2.90

3rd speed 1/min: 560

Sleeve travel mm: 4.30...4.60

4th speed 1/min: 1150

Sleeve travel mm: 8.40...8.60

5th speed 1/min: 1250

Sleeve travel mm: 9.50...9.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1150

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 600

Del.quantity cm³/ : 119.0...121.0

1000H.: (117.0...123.0)

Dispersion cm³/ : 5.00

1000H.: (7.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 112...120

Setting point:

Speed 1/min : 1150
Contr.-rod trav.mm: 16.5

Testing:

1st c-rod trav.mm : 11.40
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1250...1280
4th speed 1/min : 1400
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 61...69
Setting point w/out aux. spring
Speed 1/min : 225
Contr.-rod trav.mm: 5.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.90
Speed 1/min : 225
C-rod trav.mm : 5.40...5.60
C-rod trav.mm : 2.00
Speed 1/min : 330...390

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100
Del.quantity cm3/ : 119.5...124.5
1000H.: (118.0...126.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 03
 Edition : 10.12.86
 Superceeded : 4.85
 Calibrating oil : ISO-4113

Combination no. : 0 401 846 768

Injection pump
 Pump designation : PE6P110A32ORS3080-1
 EP type number : 0 411 816 734
 Governor
 Governor design. : RQV250...102SPA589
 Governer no. : 0 421 813 332

Customer-spec. information
 Customer : VOLVO

Engine : TD100FA

1st version kW : 220.0
 Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 17.9...18.2

100H.: (17.7...18.5)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.3...4.5

Del.quantity cm3/ : 1.5...1.9

100H.: (1.2...2.1)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 350

Sleeve travel mm: 2.20...2.80

3rd speed 1/min: 430

Sleeve travel mm: 3.50...3.90

4th speed 1/min: 1080

Sleeve travel mm: 8.40...8.50

5th speed 1/min: 1150

Sleeve travel mm: 9.50...9.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 179.5...182.5

1000H.: (177.0...185.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1085...1095

2nd c-rod trav.mm : 4.00

Speed 1/min : 1160...1190

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.80

Speed 1/min : 250

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.50...10.60

2nd pressure hPa : 700

C-rod trav.mm : 13.00...13.10

3rd pressure hPa : 300

C-rod trav.mm : 10.80...11.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 1000

Del.quantity cm3/ : 171.0...177.0

1000H.: (169.0...179.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 132.0...135.0

1000H.: (129.5...137.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 02
Edition : 12.09.86
Superceeded : 12.83
Calibrating oil : ISO-4113

Combination no. : 0 401 846 769

Injection pump
Pump designation : PE6P110A32ORS3080-1
EP type number : 0 411 816 734
Governor
Governor design. : RQV250...1100PAS89
Governor no. : 0 421 813 307

Customer-spec. information
Customer : VOLVO

Engine : TD100F

1st version kW : 220.0
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm³/ : 18.0...18.2

100H.: (17.7...18.5)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.3...4.5

Del.quantity cm³/ : 1.5...1.9

100H.: (-)

Dispersion cm³/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 350

Sleeve travel mm: 2.20...2.80

3rd speed 1/min: 430

Sleeve travel mm: 3.50...3.90

4th speed 1/min: 1160

Sleeve travel mm: 8.10...8.20

5th speed 1/min: 1230

Sleeve travel mm: 9.40...9.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm³/ : 180.0...182.0

1000H.: (177.0...185.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 59...67

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00

Speed 1/min : 1220...1250

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5..13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.80

Speed 1/min : 250

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.50...10.60

2nd pressure hPa : 720

C-rod trav.mm : 13.00...13.10

3rd pressure hPa : 320

C-rod trav.mm : 10.80...11.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 1000

Del.quantity cm³/ : 171.0...177.0

1000H.: (169.0...179.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 132.0...135.0

1000H.: (129.5...137.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,0 K
Edition : 12.09.86
Superceeded : 7.85
Calibrating oil : ISO-4113

Combination no. : 0 401 846 772

Injection pump
Pump designation : PE6P120A32ORS3118
EP type number : 0 411 826 726
Governor
Governor design. : RQV250...1025PA657
Governor no. : 0 421 813 368

Customer-spec. information
Customer : VOLVO

Engine : TD121F

1st version kW : 282,4
Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.30...13.40

Del.quantity cm³/ : 23.8...24.0

100H.: (23.5...24.3)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 3.3...3.5

Del.quantity cm³/ : 1.8...2.3

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 500

Sleeve travel mm: 4.10...4.90

3rd speed 1/min: 700

Sleeve travel mm: 6.30...6.70

4th speed 1/min: 900

Sleeve travel mm: 6.30...6.70

5th speed 1/min: 1025

Sleeve travel mm: 7.30...7.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1200

Del.quantity cm³/ : 238.5...240.5

1000H.: (235.5...243.5)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 12.30

Speed 1/min : 1085...1095

2nd c-rod trav.mm : 4.00

Speed 1/min : 1150...1180

4th speed 1/min : 1250

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 4.80

Speed 1/min : 250

C-rod trav.mm : 3.30...3.50

C-rod trav.mm : 2.00

Speed 1/min : 285...345

compensator (LDA,ADA,ALPA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1200

Contr.-rod trav.mm: 13.30...13.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.60...8.80

2nd pressure hPa : 780

C-rod trav.mm : 13.10...13.20

3rd pressure hPa : 100

C-rod trav.mm : 9.10...9.40

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 139.0...141.0

1000H.: (136.0...144.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,0 I
 Edition : 25.09.86
 Superceeded : 11.83
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 773
 Injection pump
 Pump designation : PE6P120A32ORS3116
 EP type number : 0 411 826 727
 Governor
 Governor design. : RQV250...1025PA657
 Govenner no. : 0 421 813 368

Customer-spec. information
 Customer : VOLVO

Engine : TD120G

1st version kW : 242.7
 Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm³/ : 19.6...19.8

100H.: (19.3...20.1)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.5...5.7

Del.quantity cm³/ : 1.8...2.3

100H.: (1.5...2.6)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 500

Sleeve travel mm: 4.10...4.90

3rd speed 1/min: 700

Sleeve travel mm: 6.30...6.70

4th speed 1/min: 900

Sleeve travel mm: 6.30...6.70

5th speed 1/min: 1025

Sleeve travel mm: 7.30...7.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 700

Del. quantity cm³/ : 196.5...198.5
1000H.: (193.5...201.5)
Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 58...66

Testing:

1st c-rod trav.mm : 10.40
Speed 1/min : 1065...1075
2nd c-rod trav.mm : 4.00
Speed 1/min : 1125...1155
4th speed 1/min : 1250
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 6...14

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.00
Speed 1/min : 250
C-rod trav.mm : 5.50...5.70
C-rod trav.mm : 2.00
Speed 1/min : 350...410

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.40...11.50

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 9.00...9.10
2nd pressure hPa : 450
C-rod trav.mm : 11.20...11.30
3rd pressure hPa : 170
C-rod trav.mm : 9.30...9.60

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del. quantity cm³/ : 151.0...153.0
1000H.: (148.0...156.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 Q6
 Edition : 23.09.86
 Superceeded : 5.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 784
 Injection pump
 Pump designation : PE6P110A32ORS3108V
 EP type number : 0 411 816 737
 Governor
 Governor design. : RQV250...1100PA649
 Govenrer no. : 0 421 813 346

Customer-spec. information
 Customer : VOLVO

Engine : B10/THD101FD

1st version kW : 210.0
 Speed i/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00

B17

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.70...13.80

Del.quantity cm3/ : 18.0...18.2

100H.: (17.7...18.5)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm3/ : 3.0...3.4

100H.: (2.7...3.6)

Dispersion cm3/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.30

2nd speed 1/min: 500

Sleeve travel mm: 4.10...4.90

3rd speed 1/min: 700

Sleeve travel mm: 6.30...6.70

4th speed 1/min: 950

Sleeve travel mm: 6.30...6.70

5th speed 1/min: 1100

Sleeve travel mm: 7.00...7.50

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1175

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1200

Del.quantity cm3/ : 180.0...182.0

1000H.: (177.0...185.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 12.70

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00

Speed 1/min : 1240...1270

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.80

Speed 1/min : 250

C-rod trav.mm : 5.30...5.50

C-rod trav.mm : 2.00

Speed 1/min : 345...405

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1200

Contr.-rod trav.mm: 13.70...13.80

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.60...9.80

2nd pressure hPa : 300

C-rod trav.mm : 10.00...10.10

3rd pressure hPa : 870

C-rod trav.mm : 13.30...13.50

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del. quantity cm³/ : 106.0...108.0

1000H.: (103.0...111.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 Q4
 Edition : 09.03.87
 Superceeded : 5.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 785
 Injection pump
 Pump designation : PE6P110A32ORS3108
 EP type number : 0 411 816 727
 Governor
 Governor design. : RQV250...1100PA589
 Governor no. : 0 421 813 307

Customer-spec. information
 Customer : VOLVO

Engine : N10/TD101GB

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 0 681 343 009
 Opening
 pressure, bar : 172...175
 Test inj. tubing : 1 680 750 015
 Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27
 Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 11.90...12.00

 Del.quantity cm3/ : 15.2...15.4

 100H.: (14.9...15.7)

 Dispersion cm3/ : 0.4

 100H.: (0.7)

 2nd speed 1/min: 250.0
 Contr.-rod trav. m: 4.1...4.3
 Del.quantity cm3/ : 1.7...2.1
 100H.: (1.4...2.3)
 Dispersion cm3/ : 0.3
 100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250
 Sleeve travel mm: 1.20...1.30
 2nd speed 1/min: 450
 Sleeve travel mm: 3.70...4.10
 3rd speed 1/min: 700
 Sleeve travel mm: 6.40...6.60
 4th speed 1/min: 1000
 Sleeve travel mm: 6.40...6.60
 5th speed 1/min: 1160
 Sleeve travel mm: 8.20...8.40

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1180
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Charge press. hPa : 900
 Del.quantity cm3/ : 152.0...154.0
 1000H.: (149.0...157.0)
 Dispersion cm3/ : 4.00
 1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 59...67

Testing:
1st c-rod trav.mm : 10.90
Speed 1/min : 1160...1170
2nd c-rod trav.mm : 4.00
Speed 1/min : 1215...1245
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 4...12

Testing:
Speed 1/min : 100
C-rod trav.mm min : 5.60
Speed 1/min : 250
C-rod trav.mm : 4.10...4.30
C-rod trav.mm : 2.00
Speed 1/min : 310...370

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 11.90...12.00

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.10...10.20
2nd pressure hPa : 550
C-rod trav.mm : 11.70...11.80
3rd pressure hPa : 350
C-rod trav.mm : 10.40...10.60

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 900
Speed 1/min : 1000
Del.quantity cm3/ : 146.0...150.0
1000H.: (143.0...153.0)
Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 116.0...119.0
1000H.: (113.0...122.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 12,0 G
 Edition : 09.03.87
 Superceeded : 3.85
 Calibrating oil : ISO-4113

Combination no. : 0 401 846 786

Injection pump
 Pump designation : PE6P120A32ORS3075
 EP type number : 0 411 826 717
 Governor
 Governor design. : RQ75OPA694
 Governer no. : 0 421 801 241

Customer-spec. information
 Customer : VOLVO-PENTA

Engine : TD120BHC/BRC

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
 Contr.-rod trav.mm: 9.00...12.00

B21

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 9.80...9.90

 Del.quantity cm3/ : 18.3...18.7

 100H.: (18.1...18.9)

 Dispersion cm3/ : 0.5

 100H.: (0.9)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 183.0...187.0
 1000H.: (181.0...189.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

Testing:
 1st c-rod trav.mm : 8.80
 Speed 1/min : 750...755
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 776...789
 4th speed 1/min : 850
 C-rod trav.mm : 0.00...1.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : FIA 13,8 Q
Edition : 09.03.87
Superceeded : 3.84
Calibrating oil : ISO-4113

Combination no. : 0 401 846 787

Injection pump
Pump designation : PE6P120A72ORS3123
EP type number : 0 411 826 731
Governor
Governor design. : RQV300...900PAS01-1
Governor no. : 0 421 813 421

Customer-spec. information
Customer : IVECO-FIAT

Engine : 8210.22.105

1st version kW : 243.0
Speed 1/min: 1800

TEST BENCH REQUIREMENTS

Calibrating-gil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm³/ : 21.6...21.8

100H.: (21.3...22.1)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.0...6.2

Del.quantity cm³/ : 1.5...2.1

100H.: (1.2...2.4)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 325

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 550

Sleeve travel mm: 3.80...4.50

3rd speed 1/min: 800

Sleeve travel mm: 6.60...7.00

4th speed 1/min: 900

Sleeve travel mm: 7.70...7.90

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 995

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 900

Charge press. hPa : 900

Del.quantity cm³/ : 216.0...218.0

1000H.: (213.0...221.0)

Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 940...950

2nd c-rod trav.mm : 4.00

Speed 1/min : 1035...1065

4th speed 1/min : 1200

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.60

Speed 1/min : 300

C-rod trav.mm : 6.00...6.20

CONSTANT REGULATION

Speed 1/min : 375...490

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.00...10.10

2nd pressure hPa : 500

C-rod trav.mm : 12.40...12.50

3rd pressure hPa : 350

C-rod trav.mm : 10.60...11.00

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900

Speed 1/min : 500

Del.quantity cm³/ : 235.0...241.0

1000H.: (232.0...244.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm³/ : 135.0...137.0

1000H.: (132.0...140.0)

Remarks:



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 8,0 H 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 791
Injection pump
Pump designation : PE6P110A72ORS3034
EP type number : 0 411 816 711
Governor
Governor design. : RQV275...1200PA529-1
Governor no. : 0 421 813 431

Customer-spec. information
Customer : SCANIA

Engine : DS18 01

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025
Inlet press., bar : 1.50
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 015
Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600
(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____
START OF DELIVERY
Test pressure, bar: 25...27
Prestroke mm : 3.30...3.40
 : (3.25...3.45)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 12.9...13.1

100H.: (12.7...13.3)

Dispersion cm3/ : 0.5

100H.: (0.7)

2nd speed 1/min: 275.0
Contr.-rod trav. m: 5.1...5.3
Del.quantity cm3/ : ?
100H.: (?)
Dispersion cm3/ : 0.2
100H.: (0.4)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1200
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Charge press. hPa : 900
Del.quantity cm3/ : 129.0...131.0
1000H.: (127.0...133.0)
Dispersion cm3/ : 5.00
1000H.: (7.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 60...68

Testing:

1st c-rod trav.mm : 12.20
Speed 1/min : 1240...1250
2nd c-rod trav.mm : 4.00
Speed 1/min : 1340...1370
4th speed 1/min : 1450
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 6...14

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.60
Speed 1/min : 275
C-rod trav.mm : 5.10...5.30
C-rod trav.mm : 2.00
Speed 1/min : 340...400

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 11.30...11.40
2nd pressure hPa : 440
C-rod trav.mm : 12.70...12.80
3rd pressure hPa : 290
C-rod trav.mm : 11.70...11.90

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 1200
Del.quantity cm3/ : 133.5...138.5
1000H.: (131.0...141.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 79.0...83.0
1000H.: (77.0...85.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 R8
Edition : 09.03.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 795
Injection pump
Pump designation : PE6P110A72ORS3040
EP type number : 0 411 816 713
Governor
Governor design. : RQV275...1000PA555-2
Governor no. : 0 421 813 443

Customer-spec. information
Customer : SCANIA

Engine : DS11 14

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00...50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per () -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.30...3.40
 : (3.25...3.45)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing °CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.60...13.70

Del.quantity cm3/ : 16.8...17.0

100H.: (16.6...17.2)

Dispersion cm3/ : 0.6

100H.: (0.8)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 4.4...4.6

Del.quantity cm3/ : 1.7...2.1

100H.: (1.4...2.3)

Dispersion cm3/ : 0.2

100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 0.90...1.10

2nd speed 1/min: 430

Sleeve travel mm: 3.70...4.00

3rd speed 1/min: 520

Sleeve travel mm: 4.80...5.10

4th speed 1/min: 1050

Sleeve travel mm: 8.00...8.20

5th speed 1/min: 1210

Sleeve travel mm: 9.50...9.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1100

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 168.0...170.0

1000H.: (166.0...172.0)

Dispersion cm3/ : 6.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 111...119

Remarks:

Setting point:
Speed 1/min : 1100
Contr.-rod trav.mm: 16.5

Testing:
1st c-rod trav.mm : 12.60
Speed 1/min : 1040...1050
2nd c-rod trav.mm : 4.00
Speed 1/min : 1195...1225
4th speed 1/min : 1350
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 60...68
Setting point w/out aux. spring
Speed 1/min : 275
Contr.-rod trav.mm: 4.5

Testing:
Speed 1/min : 100
C-rod trav.mm min : 5.90
Speed 1/min : 275
C-rod trav.mm : 4.40...4.60
C-rod trav.mm : 2.00
Speed 1/min : 325...385

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.60...13.70

Measurement

Speed 1/min : 500
C-rod trav.mm : 12.00...12.10
2nd pressure hPa : 420
C-rod trav.mm : 13.20...13.30
3rd pressure hPa : 290
C-rod trav.mm : 12.30...12.50

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 1000
Del. quantity cm³/ : 169.5...174.5
1000H.: (168.0...176.0)
Speed 1/min : 500
Del. quantity cm³/ : 133.0...137.0
1000H.: (131.0...139.0)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 Y2
Edition : 09.03.87
Superceeded : 7.85
Calibrating oil : ISO-4113

Combination no. : 0 401 846 800

Injection pump
Pump designation : PE6P110A720RS3115
EP type number : 0 411 816 735
Governor
Governor design. : RQ200...1100PA719
Governor no. : 0 421 801 263

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DN11 01

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness : 6.00x1.50x600
x Length mm

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.30...3.40
 : (3.25...3.45)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 12.40...12.50

Del.quantity cm³/ : 11.9...12.1

100H.: (11.7...12.3)

Dispersion cm³/ : 0.5

100H.: (0.7)

2nd speed 1/min: 225.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm³/ : 2.0...2.4

Dispersion cm³/ : 0.2

100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 225

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 350

Sleeve travel mm: 2.90...3.30

3rd speed 1/min: 450

Sleeve travel mm: 3.90...4.10

4th speed 1/min: 1050

Sleeve travel mm: 3.90...4.10

5th speed 1/min: 1160

Sleeve travel mm: 4.50...4.70

SLEEVE POSITION

Control-lever position

Degree: 101

Speed 1/min: 600

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 600

Del.quantity cm³/ : 119.0...121.0

1000H.: (117.0...123.0)

Dispersion cm³/ : 5.00

1000H.: (7.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 94...102

C03

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.5

Testing:

1st c-rod trav.mm : 11.40

Speed 1/min : 1145...1160

2nd c-rod trav.mm : 4.00

Speed 1/min : 1295...1325

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 62...70

Setting point w/out aux. spring

Speed 1/min : 225

Contr.-rod trav.mm: 5.5

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.90

Speed 1/min : 225

C-rod trav.mm : 5.40...5.60

C-rod trav.mm : 2.00

Speed 1/min : 330...370

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1100

Del.quantity cm³/ : 119.5...124.5

1000H.: (118.0...126.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11.0 E 8
 Edition : 09.03.87
 Superceeded : -
 Calibrating oil : ISO-4113

Combination no. : 0 401 846 801

Injection pump
 Pump designation : PE6P120A320LS3810-10
 EP type number : 0 411 826 734
 Governor
 Governor design. : RQV350...1150PA720-3
 Govenner no. : 0 421 813 624

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 100...110

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing⁰CS: 0-45-120-165-240-285
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 16.3...16.5

100H.: (16.0...16.8)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 4.8...5.0

Del.quantity cm3/ : 1.4...2.0

100H.: (1.1...2.3)

Dispersion cm3/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1250

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1150

Charge press. hPa : 700

Del.quantity cm3/ : 163.0...165.0

1000H.: (160.0...168.0)

Dispersion cm3/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1175...1185

2nd c-rod trav.mm : 4.00
Speed 1/min : 1260...1290
4th speed 1/min : 1360
C-rod trav.mm : 0.00...1.50

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.70
Speed 1/min : 350
C-rod trav.mm : 4.80...5.00

CONSTANT REGULATION

Speed 1/min : 350...500

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 850
C-rod trav.mm : 11.30...11.50
3rd speed 1/min : 950
C-rod trav.mm : 11.10...11.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.30...11.50

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 10.80...11.00
2nd pressure hPa : 450
C-rod trav.mm : 11.10...11.20

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 600
Del.quantity cm3/ : 170.0...176.0
1000H.: (167.0...179.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : 700
Speed 1/min : 1150
Del.quantity cm3/ : 128.0...131.0 *
1000H.: (125.0...134.0)

Dispersion cm3/ : 8.00
1000H.: (12.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 146.0...148.0
1000H.: (143.0...151.0)
Dispersion cm3/ : 8.00
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL12,1 A
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 846 813

Injection pump
Pump designation : PE6P120A32ORS3165
EP type number : 0 411 826 747
Governor
Governor design. : RQV300...1050PA657-2
Governor no. : 0 421 813 419

Customer-spec. information
Customer : VOLVO

Engine : TD121K

1st version kW : 228.0
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.30...12.40

Del.quantity cm³/ : 21.8...22.2

100H.: (21.6...22.4)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 3.7...3.9

Del.quantity cm³/ : 2.2...2.6

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.60...1.80

2nd speed 1/min: 450

Sleeve travel mm: 3.60...4.00

3rd speed 1/min: 700

Sleeve travel mm: 6.40...6.60

4th speed 1/min: 950

Sleeve travel mm: 6.40...6.60

5th speed 1/min: 1110

Sleeve travel mm: 7.80...8.00

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1130

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

Del.quantity cm³/ : 218.0...222.0

1000H.: (216.0...224.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 58...66

Testing:

1st c-rod trav.mm : 11.30

Speed 1/min : 1105...1115

2nd c-rod trav.mm : 4.00

Speed 1/min : 1170...1200

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.20

Speed 1/min : 300

C-rod trav.mm : 4.70...4.90

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 12.30...12.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 8.50...8.70

2nd pressure hPa : 680

C-rod trav.mm : 12.10...12.20

3rd pressure hPa : 150

C-rod trav.mm : 8.90...9.10

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1000

Del.quantity cm³/ : 220.0...225.0

1000H.: (217.5...227.5)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 131.0...135.0

1000H.: (129.0...137.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,1 B
Edition : 28.10.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 846 814

Injection pump
Pump designation : PE6P120A32ORS3166
EP type number : 0 411 826 748
Governor
Governor design. : RQV300...1050PA371-1
Governor no. : 0 421 813 412

Customer-spec. information
Customer : VOLVO

Engine : TD 1216

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
: (2.55...2.75)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 10.50...10.60

Del.quantity cm³/ : 17.4...17.8

100H.: (17.2...18.0)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm³/ : 1.7...2.1

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.50...1.60

2nd speed 1/min: 410

Sleeve travel mm: 2.30...2.70

3rd speed 1/min: 550

Sleeve travel mm: 3.30...3.80

4th speed 1/min: 1090

Sleeve travel mm: 7.80...8.00

5th speed 1/min: 1160

Sleeve travel mm: 8.50...8.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1140

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm³/ : 174.0...178.0

1000H.: (172.0...180.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 39...47

Testing:

1st c-rod trav.mm : 9.50

Speed 1/min : 1105...1115

2nd c-rod trav.mm : 4.00

Speed 1/min : 1185...1215

4th speed 1/min : 1325

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.80

Speed 1/min : 300

C-rod trav.mm : 5.30...5.50

C-rod trav.mm : 2.00

Speed 1/min : 380...440

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 10.50...10.60

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.10...9.20

2nd pressure hPa : 390

C-rod trav.mm : 10.30...10.40

3rd pressure hPa : 160

C-rod trav.mm : 9.40...9.60

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 148.0...152.0

1000H.: (146.0...154.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,0 K9
 Edition : 14.11.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 817
 Injection pump
 Pump designation : PE6P120A32ORS3118-5
 EP type number : 0 411 826 753
 Governor
 Governor design. : R0V250...850PA657-9
 Governor no. : 0 421 813 566

Customer-spec. information
 Customer : VOLVO

Engine : TD121FH

1st version kW : 232.0
 Speed 1/min: 1700

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve
 : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.30...12.40

Del.quantity cm³/ : 21.2...21.5

100H.: (20.9...21.8)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 3.3...3.5

Del.quantity cm³/ : 1.8...2.3

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.10...1.20

2nd speed 1/min: 450

Sleeve travel mm: 3.60...3.90

3rd speed 1/min: 700

Sleeve travel mm: 6.40...6.60

4th speed 1/min: 900

Sleeve travel mm: 7.50...7.70

5th speed 1/min: 980

Sleeve travel mm: 8.80...9.20

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 900

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del. quantity cm³/ : 212.0...215.0
1000H.: (209.0...218.0)
Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 56...64

Testing:

1st c-rod trav.mm : 11.30

Speed 1/min : 890...900

2nd c-rod trav.mm : 4.00

Speed 1/min : 955...985

4th speed 1/min : 1100

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 3...11

Testing:

Speed 1/min : 100

C-rod trav.mm min : 4.80

Speed 1/min : 250

C-rod trav.mm : 3.30...3.50

CONSTANT REGULATION

Speed 1/min : 250...350

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 12.30...12.40

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.60...9.70

2nd pressure hPa : 390

C-rod trav.mm : 12.10...12.20

3rd pressure hPa : 150

C-rod trav.mm : 9.90...10.10

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del. quantity cm³/ : 160.0...164.0

1000H.: (157.0...167.0)

Remarks:

C14

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 04
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 821
Injection pump
Pump designation : PE6P110A32ORS3080-2
EP type number : 0 411 816 750
Governor
Governor design. : RQV250...1025PA589-1
Governor no. : 0 421 813 564

Customer-spec. information
Customer : VOLVO

Engine : TD101FC

1st version kW : 221.0
Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
: (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del. quantity cm³/ : 18.0...18.2

100H.: (17.7...18.5)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.3...4.5

Del. quantity cm³/ : 1.5...1.9

100H.: (1.2...2.1)

Dispersion cm³/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 350

Sleeve travel mm: 2.20...2.30

3rd speed 1/min: 430

Sleeve travel mm: 3.50...3.90

4th speed 1/min: 1080

Sleeve travel mm: 8.40...8.50

5th speed 1/min: 1150

Sleeve travel mm: 9.50...9.80

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1080

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

Del. quantity cm³/ : 180.0...182.0

1000H.: (177.0...185.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1085...1095

2nd c-rod trav.mm : 4.00

Speed 1/min : 1140...1170

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.80

Speed 1/min : 250

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.20...10.30

2nd pressure hPa : 700

C-rod trav.mm : 13.00...13.10

3rd pressure hPa : 250

C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1000

Del.quantity cm3/ : 170.0...174.0

1000H.: (167.0...177.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 124.0...127.0

1000H.: (121.5...129.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 10,0 05
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 822
Injection pump
Pump designation : PE6P110A320RS3080-2
EP type number : 0 411 816 750
Governor
Governor design. : RQV250...1100PA589-2
Governor no. : 0 421 813 565

Customer-spec. information
Customer : VOLVO

Engine : TD101FD

1st version kW : 222
Speed 1/min: 2200

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm³/ : 18.0...18.2

100H.: (17.7...18.5)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.3...4.5

Del.quantity cm³/ : 1.5...1.9

100H.: (-)

Dispersion cm³/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 250

Sleeve travel mm: 1.20...1.30

2nd speed 1/min: 350

Sleeve travel mm: 2.20...2.80

3rd speed 1/min: 430

Sleeve travel mm: 3.50...3.90

4th speed 1/min: 1160

Sleeve travel mm: 8.10...8.20

5th speed 1/min: 1230

Sleeve travel mm: 9.40...9.70

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1180

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

Del.quantity cm³/ : 180.0...182.0

1000H.: (177.0...185.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 59...67

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1160...1170

2nd c-rod trav.mm : 4.00

Speed 1/min : 1220...1250

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 5...13

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.80

Speed 1/min : 250

C-rod trav.mm : 4.30...4.50

CONSTANT REGULATION

Speed 1/min : 270...380

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 13.20...13.30

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.20...10.30

2nd pressure hPa : 700

C-rod trav.mm : 13.00...13.10

3rd pressure hPa : 250

C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000

Speed 1/min : 1000

Del.quantity cm³/ : 170.0...174.0

1000H.: (167.0...177.0)

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 124.0...127.0

1000H.: (121.5...129.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,1 A1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 846 828
Injection pump
Pump designation : PE6P120A32ORS3165
EP type number : 0 411 826 747
Governor
Governor design. : RQV300...102SPA657-
12
Governor no. : 0 421 813 571

Customer-spec. information
Customer : VOLVO

Engine : TID 1216

1st version kW : 243.0
Speed 1/min: 2050

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.60...2.70
 : (2.55...2.75)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.60...11.70

Del.quantity cm³/ : 19.7...20.0

100H.: (19.4...20.3)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 3.7...3.9

Del.quantity cm³/ : 2.2...2.6

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 1.70...1.80

2nd speed 1/min: 370

Sleeve travel mm: 2.60...2.90

3rd speed 1/min: 430

Sleeve travel mm: 3.60...3.80

4th speed 1/min: 1080

Sleeve travel mm: 6.80...7.00

5th speed 1/min: 1160

Sleeve travel mm: 8.10...8.30

SLEEVE POSITION

Control-lever position

degree: -1

Speed 1/min: 1070

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 1000

C21

Del.quantity cm³/ : 197.0...200.0
1000H.: (194.0...203.0)
Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 53...61

Testing:

1st c-rod trav.mm : 10.60

Speed 1/min : 1085...1095

2nd c-rod trav.mm : 4.00

Speed 1/min : 1160...1190

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 5.20

Speed 1/min : 300

C-rod trav.mm : 3.70...3.90

CONSTANT REGULATION

Speed 1/min : 300...400

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1000

Contr.-rod trav.mm: 11.60...11.70

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.30...10.40

2nd pressure hPa : 300

C-rod trav.mm : 11.40...11.50

3rd pressure hPa : 150

C-rod trav.mm : 10.60...10.80

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm³/ : 166.0...169.0

1000H.: (163.0...172.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 9,8 B
Edition : 12.09.86
Superceeded : 1.83
Calibrating oil : ISO-4113

Combination no. : 0 401 856 149

Injection pump
Pump designation : PE6P120A321RS438
EP type number : 0 411 826 119
Governor
Governor design. : RQV275...1200PA538
Governor no. : 0 421 813 267

Customer-spec. information
Customer : RVI

Engine : MID 062045

1st version kW : 151.6
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 443 022

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 060

Outside diameter
x Wall thickness
x Length mm : 8.00X2.00X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 10.60...10.70

Del.quantity cm³/ : 14.7...15.1

100H.: (14.4...15.4)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 5.3...5.5

Del.quantity cm³/ : 0.7...1.3

100H.: (0.4...1.6)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 850

Sleeve travel mm: 5.10...5.50

3rd speed 1/min: 1200

Sleeve travel mm: 8.00...8.20

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1200

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Del.quantity cm³/ : 147.0...151.0

1000H.: (144.0...154.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 9.60

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1310...1340

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 100

C-rod trav.mm min : 6.90

Speed 1/min : 275

C-rod trav.mm : 5.30...5.50

CONSTANT REGULATION

Speed 1/min : 280...390

SWITCH-OVER POINT

Speed 1/min : 195 (215)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 9,8 B 1
 Edition : 12.09.86
 Superceeded : 7.83
 Calibrating oil : ISO-4113

Combination no. : 0 401 856 153

Injection pump
 Pump designation : PE6P120A321RS438
 EP type number : 0 411 826 119
 Governor
 Governor design. : RQV275...1200PA648
 Governor no. : 0 421 813 345

Customer-spec. information
 Customer : RVI

Engine : MID 062045

1st version kW : 152.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav. mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav. mm: 11.20...11.30

Del. quantity cm³/ : 13.4...13.7

100H.: (13.1...14.0)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 5.9...6.1

Del. quantity cm³/ : 0.7...1.3

100H.: (0.4...1.6)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 450

Sleeve travel mm: 3.30...4.00

3rd speed 1/min: 850

Sleeve travel mm: 5.80...6.20

4th speed 1/min: 1200

Sleeve travel mm: 8.20...8.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1230

Cont.-rod travel mm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Del. quantity cm³/ : 134.0...137.0

1000H.: (131.0...140.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 10.20

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1335...1365

4th speed 1/min : 1500

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 7...15

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.50

Speed 1/min : 275

C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION

Speed 1/min : 270...365

SWITCH-OVER POINT

Speed 1/min : 225 (245)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 8,8 C 1
Edition : 12.09.86
Superceeded : 7.84
Calibrating oil : ISO-4113
Combination no. : 0 401 856 154
Injection pump
Pump designation : PE6P120A321RS359-1
EP type number : 0 411 826 129
Governor
Governor design. : RQV275...1200PA648
Governor no. : 0 421 813 345

Customer-spec. information
Customer : RVI

Engine : MID 062030

1st version kW : 141.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm³/ : 12.7...12.9

100H.: (12.4...13.2)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 5.60...5.80

Del.quantity cm³/ : 1.1...1.7

100H.: (0.8...2.0)

Dispersion cm³/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.30...1.40

2nd speed 1/min: 450

Sleeve travel mm: 3.30...3.90

3rd speed 1/min: 800

Sleeve travel mm: 5.70...5.90

4th speed 1/min: 1200

Sleeve travel mm: 8.20...8.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1230

Contr.-rod tra : lmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Del.quantity cm³/ : 127.0...129.0

1000H.: (124.0...132.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 61...69

Testing:

1st c-rod trav.mm : 9.70

Speed 1/min : 1245...1255

2nd c-rod trav.mm : 4.00

Speed 1/min : 1335...1365

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 200

C-rod trav.mm min : 8.20

Speed 1/min : 275

C-rod trav.mm : 5.60...5.80

CONSTANT REGULATION

Speed 1/min : 275...365

SWITCH-OVER POINT

Speed 1/min : 195 (215)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 7,1 A 5
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 319
Injection pump
Pump designation : PE6P110A32ORS492-1
EP type number : 0 411 816 164
Governor
Governor design. : RSV200...1200P1A305
Governor no. : 0 421 833 197

Customer-spec. information
Customer : VOLVO-PENTA

Engine : TD71AW

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025
Inlet press., bar : 1.50
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 015
Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27
Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁹ : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.60...12.70

Del.quantity cm3/ : 13.4...13.6

100H.: (13.1...13.9)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 200.0
Contr.-rod trav. m: 5.4...5.6
Del.quantity cm3/ : 1.6...2.2
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (0.6)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : 4.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 134.0...136.0
1000H.: (131.0...139.0)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 51...59

Testing:

1st c-rod trav.mm : 11.60
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
4th speed 1/min : 1340
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 13...21
Setting point w/out aux. spring
Speed 1/min : 200
Contr.-rod trav.mm: 5.0
Speed 1/min : 200
C-rod trav.mm : 5.40...5.60
C-rod trav.mm : 2.00
Speed 1/min : 280...340

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 C
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 321
Injection pump
Pump designation : PE6P110A32ORS497
EP type number : 0 411 816 165
Governor
Governor design. : RSV200...1200P1A374-
1
Governor no. : 0 421 833 204

Customer-spec. information
Customer : VOLVO

Engine : TD71A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
: (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.80...11.90

Del.quantity cm3/ : 11.6...11.8

100H.: (11.3...12.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 200.0

Contr.-rod trav. m: 5.4...5.6

Del.quantity cm3/ : 1.6...2.2

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 4.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 900

Del.quantity cm3/ : 116.0...118.0

1000H.: (113.0...121.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 51...59

Testing:

1st c-rod trav.mm : 10.80

Speed 1/min : 1210...1220

2nd c-rod trav.mm : 4.00

Speed 1/min : 1240...1270

4th speed 1/min : 1410

C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 13...21
Setting point w/out aux. spring
Speed 1/min : 200
Contr.-rod trav.mm: 5.0
Speed 1/min : 200
C-rod trav.mm : 5.40...5.60
C-rod trav.mm : 2.00
Speed 1/min : 280...340

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 11.80...11.90

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.50...9.60
2nd pressure hPa : 675
C-rod trav.mm : 11.60...11.70
3rd pressure hPa : 150
C-rod trav.mm : 9.70...9.90

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm3/ : 82.0...85.0
1000H.: (79.0...88.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 7,1 C 1
Edition : 09.03.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 322
Injection pump
Pump designation : PE6P110A32ORS497
EP type number : 0 411 816 165
Governor
Governor design. : RSV200...1200P1A374-
2
Governor no. : 0 421 833 205
Customer-spec. information
Customer : VOLVO

Engine : TJD71A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025
Inlet press., bar : 1.50
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 015
Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27
Prestroke mm : 3.00...3.10
 : (2.95...3.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm3/ : 11.6...11.8

100H.: (11.3...12.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 200.0
Contr.-rod trav. m: 5.2...5.4
Del.quantity cm3/ : 1.6...2.2
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (0.6)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Charge press. hPa: 900
Del.quantity cm3/ : 116.0...118.0
1000H.: (113.0...121.0)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 54...62

Testing:

1st c-rod trav.mm : 10.70
Speed 1/min : 1240...1250
2nd c-rod trav.mm : 4.00
Speed 1/min : 1270...1300
4th speed 1/min : 1420
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 13...21

Setting point w/out aux. spring

Speed 1/min : 200

Contr.-rod trav.mm: 4.8

Speed 1/min : 200

C-rod trav.mm : 5.20...5.40

C-rod trav.mm : 2.00

Speed 1/min : 270...330

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 900

Contr.-rod trav.mm: 11.70...11.80

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.40...9.50

2nd pressure hPa : 680

C-rod trav.mm : 11.50...11.60

3rd pressure hPa : 290

C-rod trav.mm : 9.70...9.90

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 76.0...78.0

1000H.: (73.0...81.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 7,1 A 3
 Edition : 11.3.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 324
 Injection pump
 Pump designation : PE6P110A32ORS492
 EP type number : 0 411 816 161
 Governor
 Governor design. : RSV200...1000P1A305-
 3
 Governer no. : 0 421 833 208
 Customer-spec. information
 Customer : VOLVO-PENTA

Engine : TD71ACE

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 0 681 343 009
 Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27
 Prestroke mm : 3.00...3.10
 : (2.95...3.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 12.40...12.50

 Del.quantity cm3/ : 12.6...12.8

 100H.: (12.3...13.1)

 Dispersion cm3/ : 0.4

 100H.: (0.7)

 2nd speed 1/min: 200.0
 Contr.-rod trav. m: 5.4...5.6
 Del.quantity cm3/ : 1.6...2.2
 100H.: (-)
 Dispersion cm3/ : 0.3
 100H.: (0.6)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 4.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 126.0...128.0
 1000H.: (123.0...131.0)
 Dispersion cm3/ : 4.00
 1000H.: (7.50)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 50...58

Testing:

1st c-rod trav.mm : 11.40
 Speed 1/min : 1010...1020
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1050...1080
 4th speed 1/min : 1210
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 13...21
Setting point w/out aux. spring
Speed i/min : 200
Contr.-rod trav.mm: 5.0
Speed 1/min : 200
C-rod trav.mm : 5.40...5.60
C-rod trav.mm : 2.00
Speed 1/min : 280...340

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 8,0 K
Edition : 09.03.87
Superceeded : 5.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 715

Injection pump
Pump designation : PE6P110A72ORS3034
EP type number : 0 411 816 711
Governor
Governor design. : RSV350...1200P1/462
Governor no. : 0 421 833 110

Customer-spec. information
Customer : SCANIA

Engine : DS8 40

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.30...3.40
 : (3.25...3.45)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 12.1...12.3

100H.: (11.9...12.5)

Dispersion cm3/ : 0.5

100H.: (0.7)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 5.9...6.1

Del.quantity cm3/ : 1.5...2.1

100H.: (-)

Dispersion cm3/ : 0.2

100H.: (0.4)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 121.0...123.0

1000H.: (119.0...125.0)

Dispersion cm3/ : 5.00

1000H.: (7.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 67...75

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 1240...1250

2nd c-rod trav.mm : 4.00

Speed 1/min : 1310...1340

4th speed 1/min : 1450

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 25...33

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 5.5
Speed 1/min : 350
C-rod trav.mm : 5.90...6.10
C-rod trav.mm : 2.00
Speed 1/min : 500...560

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1200
Del.quantity cm3/ : 126.5...131.5
1000H.: (125.0...133.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 K 1
Edition : 12.09.86
Superceeded : 3.85
Calibrating oil : ISO-4113
Combination no. : 0 401 876 723
Injection pump
Pump designation : PE6P110A32QLS3814-10
EP type number : 0 411 816 741
Governor
Governor design. : RSV350...1150POA810
Governor no. : 0 421 833 164

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : 0M421

1st version kW : 159.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing⁰CS: 0-45-120-165-240-285
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1130

Contr.-rod trav.mm: 12.10...12.20

Del.quantity cm³/ : 13.5...13.7

100H.: (13.2...13.9)

Dispersion cm³/ : 0.4

100H.: (0.8)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 7.7...7.9

Del.quantity cm³/ : 1.4...2.0

100H.: (1.1...2.2)

Dispersion cm³/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1130

Del.quantity cm³/ : 135.0...137.0

1000H.: (132.5...139.5)

Dispersion cm³/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 47...53

Testing:

1st c-rod trav.mm : 11.10

Speed 1/min : 1165...1175

2nd c-rod trav.mm : 4.00

Speed 1/min : 1230...1260
4th speed 1/min : 1400
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 24...32

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 7.8

Speed 1/min : 350

C-rod trav.mm : 7.70...7.90

C-rod trav.mm : 2.00

Speed 1/min : 430...490

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 12,0 D1
 Edition : 12.09.86
 Superceeded : 5.85
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 731
 Injection pump
 Pump designation : PE6P120A32ORS3088-2
 EP type number : 0 411 826 728
 Governor
 Governor design. : RSV650...750P4/421
 Governer no. : 0 421 833 120

Customer-spec. information
 Customer : VOLVO-PENTA

Engine : TD121GG

1st version kW : 230.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

Prestroke mm : 2.40...2.50
 : (2.35...2.55)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.50...11.60

Del.quantity cm³/ : 19.0...19.2

100H.: (18.7...19.5)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 650.0

Contr.-rod trav. m: 3.2...3.4

Del.quantity cm³/ : 2.0...2.4

100H.: (-)

Dispersion cm³/ : 0.5

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.70

Governor-spring reload
 Notch setting x : 2.75

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm³/ : 190.0...192.0

1000H.: (187.0...195.0)

Dispersion cm³/ : 5.00

1000H.: (9.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 35...43

Testing:

1st c-rod trav.mm : 10.50

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 776...789
4th speed 1/min : 930
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 28...36

Setting point w/out aux. spring

Speed 1/min : 650

Contr.-rod trav.mm: 3.3

Speed 1/min : 650

C-rod trav.mm : 3.20...3.40

C-rod trav.mm : 2.00

Speed 1/min : 630...690

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 12,0 L1
Edition : 12.09.86
Superceeded : 5.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 735

Injection pump
Pump designation : PE6P120A32ORS3088
EP type number : 0 411 826 720
Governor
Governor design. : RSV200...1000P4/421
Governor no. : 0 421 833 142

Customer-spec. information
Customer : VOLVO

Engine : TD121G

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.40...2.50
 : (2.35...2.55)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁰ : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.70...11.80

Del.quantity cm³/ : 17.7...17.9

100H.: (17.4...18.2)

Dispersion cm³/ : 0.5

100H.: (0.9)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 4.0...4.2
Del.quantity cm³/ : 1.6...2.0
100H.: (1.3...2.3)
Dispersion cm³/ : 0.5
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.70

Governor-spring reload
Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm³/ : 177.0...179.0
1000H.: (174.0...182.0)
Dispersion cm³/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 54...62

Testing:

1st c-rod trav.mm : 10.70
Speed 1/min : 1020...1030
2nd c-rod trav.mm : 4.00
Speed 1/min : 1040...1070
4th speed 1/min : 1210
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 18...26

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 3.6

Speed 1/min : 250

C-rod trav.mm : 4.00...4.20

C-rod trav.mm : 2.00

Speed 1/min : 280...340

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 D 1
Edition : 12.09.86
Superceeded : 12.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 739

Injection pump
Pump designation : PE6P110A32OLS3805-10
EP type number : 0 411 816 740
Governor
Governor design. : RSV650...1150P1A820-3
Governor no. : 0 421 833 177

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421

1st version kW : 159.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...110

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing^oCS: 0-45-120-165-240-285
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1180

Contr.-rod trav.mm: 12.50...12.60

Del.quantity cm³/ : 13.7...13.9

100H.: (13.4...14.1)

Dispersion cm³/ : 0.4

100H.: (0.8)

2nd speed 1/min: 650.0

Contr.-rod trav. m: 6.0...6.2

Del.quantity cm³/ : 1.6...2.2

100H.: (1.3...2.4)

Dispersion cm³/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1180

Del.quantity cm³/ : 137.0...139.0

1000H.: (134.5...141.5)

Dispersion cm³/ : 4.00

1000H.: (8.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 53...61

Testing:

1st c-rod trav.mm : 11.50

Speed 1/min : 1210...1220

2nd c-rod trav.mm : 4.00
Speed 1/min : 1240...1260
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 26...34
Setting point w/out aux. spring
Speed 1/min : 650
Contr.-rod trav.mm: 6.1

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 650
C-rod trav.mm : 6.00...6.20
C-rod trav.mm : 2.00
Speed 1/min : 650...715

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1180
C-rod trav.mm : 12.40...12.50
2nd speed 1/min : 970
C-rod trav.mm : 12.90...13.10
3rd speed 1/min : 1100
C-rod trav.mm : 12.50...12.70
4th speed 1/min : 700
C-rod trav.mm : 13.10...13.30

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 970
Del. quantity cm3/ : 137.0...141.0
1000H.: (134.0...144.0)
Dispersion cm3/ : 6.00
1000H.: (9.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11,0 Q 4
Edition : 12.09.86
Superceeded : 3.85
Calibrating oil : ISO-4113

Combination no. : 0 401 876 740

Injection pump
Pump designation : PE6P120A320LS3815-10
EP type number : 0 411 826 735
Governor
Governor design. : RSV750...1150P1A820-
4
Governor no. : 0 421 833 179

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184,0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing^oCS: 0-45-120-165-240-285
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1180

Contr.-rod trav.mm: 11.00...11.10

Del.quantity cm3/ : 16.3...16.5
100H.: (16.0...16.8)

Dispersion cm3/ : 0.5
100H.: (0.9)

2nd speed 1/min: 750.0
Contr.-rod trav. m: 3.3...3.5
Del.quantity cm3/ : 1.8...2.4
100H.: (1.5...2.7)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1180
Del.quantity cm3/ : 163.0...165.0
1000H.: (160.0...168.0)
Dispersion cm3/ : 5.00
1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 56...64

Testing:
1st c-rod trav.mm : 10.00
Speed 1/min : 1210...1220

2nd c-rod trav.mm : 4.00
Speed 1/min : 1235...1255
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 32...40
Setting point w/out aux. spring
Speed 1/min : 750
Contr.-rod trav.mm: 3.4
Speed 1/min : 750
C-rod trav.mm : 3.30...3.50
C-rod trav.mm : 2.00
Speed 1/min : 755...815

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1180
C-rod trav.mm : 11.00...11.10
2nd speed 1/min : 975
C-rod trav.mm : 11.60...11.80
3rd speed 1/min : 600
C-rod trav.mm : 11.80...12.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 975
Del.quantity cm3/ : 174.0...180.0
1000H.: (171.0...183.0)
Dispersion cm3/ : 8.0
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 7,1 C
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 743
Injection pump
Pump designation : PE6P110A32ORS3147
EP type number : 0 411 816 743
Governor
Governor design. : RSV650...750P4/421
Governor no. : 0 421 833 120

Customer-spec. information
Customer : VOLVO-PENTA

Engine : TID 71AG

1st version kW : 153.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 11.20...11.30

Del.quantity cm³/ : 15.8...16.0

100H.: (15.5...16.3)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 650.0

Contr.-rod trav. m: 4.0...4.2

Del.quantity cm³/ : 1.7...2.1

100H.: (1.4...2.3)

Dispersion cm³/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
Notch setting x : 2.75

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm³/ : 158.0...160.0

1000H.: (155.0...163.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 35...43

Testing:

1st c-rod trav.mm : 10.20

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 776...789

4th speed 1/min : 930

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 29...37

Setting point w/out aux. spring

Speed 1/min : 650

Contr.-rod trav.mm: 4.1

Speed 1/min : 650

C-rod trav.mm : 4.00...4.20

C-rod trav.mm : 2.00

Speed 1/min : 640...700

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 7,1 C 1
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 744
 Injection pump
 Pump designation : PE6P110A32ORS3147
 EP type number : 0 411 816 743
 Governor
 Governor design. : RSV650...750P4/421-2
 Governer no. : 0 421 833 198

Customer-spec. information
 Customer : VOLVO-PENTA

Engine : TD71AG

1st version kW : 127.0
 Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 10.90...11.00

Del.quantity cm3/ : 14.6...14.8

100H.: (14.3...15.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 650.0

Contr.-rod trav. m: 4.1...4.3

Del.quantity cm3/ : 1.7...2.1

100H.: (1.4...2.3)

Dispersion cm3/ : 0.6

100H.: (0.9)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 5.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 146.0...148.0

1000H.: (143.0...151.0)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 43...51

Testing:

1st c-rod trav.mm : 9.90

Speed 1/min : 742...747

2nd c-rod trav.mm : 4.00

Speed 1/min : 771...784

4th speed 1/min : 940

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 37...45

Setting point w/out aux. spring

Speed 1/min : 650

Contr.-rod trav.mm: 4.2

Speed 1/min : 650

C-rod trav.mm : 4.10...4.30

C-rod trav.mm : 2.00

Speed 1/min : 635...695

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 10,0 H
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 401 876 746
Injection pump
Pump designation : PE6P110A32ORS3156
EP type number : 0 411 816 747
Governor
Governor design. : RSV200...75OP4/421
Governor no. : 0 421 833 118

Customer-spec. information
Customer : VOLVO-PENTA

Engine : TD100GG

1st version kW : 179.0
Speed 1/min: 1500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
: (3.45...3.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.10...13.20

Del.quantity cm³/ : 18.1...18.3

100H.: (17.8...18.6)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 4.1...4.3

Del.quantity cm³/ : 1.7...2.1

100H.: (1.4...2.3)

Dispersion cm³/ : 0.3

100H.: (0.6)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm³/ : 181.0...183.0

1000H.: (178.0...186.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 39...47

Testing:

1st c-rod trav.mm : 12.10

Speed 1/min : 755...765

2nd c-rod trav.mm : 4.00

Speed 1/min : 790...820

4th speed 1/min : 950

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 17...25

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 3.7

Speed 1/min : 250

C-rod trav.mm : 4.10...4.30

C-rod trav.mm : 2.00

Speed 1/min : 270...330

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 7,1 D
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 876 749
 Injection pump
 Pump designation : PE6P120A320RS3163
 EP type number : 0 411 826 750
 Governor
 Governor design. : RSV250...1250POA374
 Govenrer no. : 0 421 833 222

Customer-spec. information
 Customer : VOLVO PENTA

Engine : TAMD 71 A

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 025
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 1 688 901 019
 Opening
 pressure, bar : 207...210
 Perforated-plate
 diameter mm : 0,8
 Test inj. tubing : 1 680 750 067
 Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27
 Prestroke mm : 2.80...2.90
 : (2.75...2.95)
 Contr.-rod trav.mm: 9.00...12.00

D28

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 750

 Contr.-rod trav.mm: 12.80...12.90

 Del.quantity cm3/ : 20.1...20.3

 100H.: (19.8...20.6)

 Dispersion cm3/ : 0.5

 100H.: (0.9)

2nd speed 1/min: 250.0
 Contr.-rod trav. m: 4.0...4.2
 Del.quantity cm3/ : 1.1...1.5
 100H.: (-)
 Dispersion cm3/ : 0.5
 100H.: (0.7)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 3.75

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 750
 Charge press. hPa : 1500
 Del.quantity cm3/ : 201.0...203.0
 1000H.: (198.0...206.0)
 Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 53...61

Testing:
 1st c-rod trav.mm : 11.80
 Speed 1/min : 1290...1300
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1370...1400
 4th speed 1/min : 1500

C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 22...30

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 3.6

Speed 1/min : 250

C-rod trav.mm : 4.00...4.20

C-rod trav.mm : 2.00

Speed 1/min : 360...420

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 1500

Contr.-rod trav.mm: 12.80...12.90

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 7.80...7.90

2nd pressure hPa : 1000

C-rod trav.mm : 11.50...11.60

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1500

Speed 1/min : 1250

Del.quantity cm³/ : 198.0...204.0

1000H.: (195.0...207.0)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm³/ : 77.0...81.0

1000H.: (74.0...84.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 11 0 Q 7
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 876 753

Injection pump
Pump designation : PE6P120A32OLS3815-10
EP type number : 0 411 826 735
Governor
Governor design. : RSV750...1150P1A820-6
Governor no. : 0 421 833 227

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM421A

1st version kW : 184.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 100...120

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 6- 3- 5- 2- 4- 1

SD ang. spacing⁰CS: 0-45-120-165-240-285
Tolerance + -⁰ : 0.50 (0.75)

SD mark cyl. no. : 6

BASIC SETTING

1st speed 1/mi: 1180

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 15.8...16.0
 100H.: (15.5...16.3)

Dispersion cm3/ : 0.5
 100H.: (0.9)

2nd speed 1/min: 750.0
Contr.-rod trav. m: 3.4...3.6
Del.quantity cm3/ : 1.8...2.4
 100H.: (1.5...2.7)
Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : ?

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1180
Del.quantity cm3/ : 158.0...160.0
 1000H.: (155.0...163.0)
Dispersion cm3/ : 5.00
 1000H.: (9.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 56...64

Testing:

1st c-rod trav.mm : 9.70
Speed 1/min : 1210...1220
2nd c-rod trav.mm : 4.00
Speed 1/min : 1240...1260
4th speed 1/min : 1350
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 32...40
Speed 1/min : 750
C-rod trav.mm : 3.30...3.50
C-rod trav.mm : 2.00
Speed 1/min : 755...815

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1180
C-rod trav.mm : 10.70...10.80
2nd speed 1/min : 950
C-rod trav.mm : 11.20...11.40
3rd speed 1/min : 1075
C-rod trav.mm : 11.00...11.20

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 975
Del.quantity cm3/ : 169.0...175.0
1000H.: (166.0...178.0)
Dispersion cm3/ : 8.0
1000H.: (12.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PEN 10,0 K
Edition : 07.11.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 876 754

Injection pump
Pump designation : PE6P110A32ORS3152
EP type number : 0 411 816 746
Governor
Governor design. : RSV200...1100P1A515-
1
Governor no. : 0 421 833 247

Customer-spec. information
Customer : VOLVO-PENTA

Engine : TD100G

TEST BENCH REQUIREMENTS

Calibrating-gil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 16.7...16.9

100H.: (16.4...17.2)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 4.0...4.2
Del.quantity cm3/ : 1.9...2.3
Dispersion cm3/ : 0.4
100H.: (0.7)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

Governor-spring reload
Notch setting x : 6.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Charge press. hPa : 1000
Del.quantity cm3/ : 167.0...169.0
1000H.: (164.0...172.0)
Dispersion cm3/ : 4.00
1000H.: (7.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 71...79

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1215
4th speed 1/min : 1340
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 25...33
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 3.6
Speed 1/min : 250
C-rod trav.mm : 4.00...4.20
C-rod trav.mm : 2.00
Speed 1/min : 280...340

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 1000
Contr.-rod trav.mm: 12.20...12.30

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 9.80...9.90
2nd pressure hPa : 590
C-rod trav.mm : 12.00...12.10
3rd pressure hPa : 280
C-rod trav.mm : 10.10...10.30

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -
Speed 1/min : 700
Del.quantity cm³/ : 122.0...124.0
1000H.: (119.0...127.0)

Remarks:



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10,6 D
Edition : 7.86
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 402 076 038
Injection pump
Pump designation : PES6P110A72DRS296
Governor
Governor design. : RSV400...900PO/440DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010
Inlet press., bar : 1.5
Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6,00X1,50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2,75...2,85
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS : 0-60-120-180-240-300
Tolerance + - : 0,5 (0,75)

SD mark cyl. no. : 1

EOB

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 11,6

Del.quantity cm3/ : 16,0...16,2

Dispersion cm3/ : 0,40

2nd speed 1/min: 400
Contr.-rod trav. m: 6,3
Del.quantity cm3/ : 1,9...2,5
Dispersion cm3/ : 0,40

SLEEVE POSITION

Control-lever position
Degree: LOSE
Speed 1/min: 800
Cont.-rod travelmm: 0,3...1,0

Governor-spring reload
Notch setting x : -

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 900
Charge press. hPa : 800
Del.quantity cm3/ : 160,0...162,0
1000H.: (156,0...166,0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 38...46

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29
Setting point w/out aux. spring
Speed 1/min: 400
Contr.-rod trav.mm: 5,6...5,8

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19,0
Speed 1/min : 400
C-rod trav.mm : 6,1...6,3
C-rod trav.mm : 2,0
Speed 1/min : 470...530

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 550
Pressure hPa : 420

Contr.-rod trav.mm: 11,25...11,35

Measurement

Speed 1/min : 550

1st pressure hPa : 570

C-rod trav.mm : 12,28...12,32

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 800

Speed 1/min : 650

Del.quantity cm3/ : 177,0...180,0

1000H.: (171,0...186,0)

Speed 1/min : 550

Del.quantity cm3/ : 135,0...141,0

1000H.: (129,0...147,0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R 1
Edition : 09.03.87
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 160

Injection pump
Pump designation : PES6MW100/32ORS1112
EP type number : 0 413 406 108
Governor
Governor design. : RQV350...1200MW64
Governor no. : 0 420 083 090

Customer-spec. information
Customer : NAVI-STAR

Engine : DTA-466C

1st version kW : 157.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
: (3.90...4.10)
Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 11.80...11.90

Del.quantity cm3/ : 10.8...11.0

100H.: (10.6...11.2)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 5.9...6.0
Del.quantity cm3/ : 1.8...2.2
100H.: (1.5...2.4)
Dispersion cm3/ : 0.35
100H.: (0.5)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1380
Cont.-rod travelmm: 6.70...9.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 800
Charge press. hPa : 800
Del.quantity cm3/ : 108.0...110.0
1000H.: (106.0...112.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 43...48

Testing:

1st c-rod trav.mm : 10.50
Speed 1/min : 1260...1280
2nd c-rod trav.mm : 4.00
Speed 1/min : 1375...1385
4th speed 1/min : 1450
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 5.9...6.0

Remarks:

Testing:
Speed 1/min : 100
C-rod trav.mm min : 9.00
Speed 1/min : 350
C-rod trav.mm : 5.90...6.00

CONSTANT REGULATION
Speed 1/min : 370...450

TORQUE CONTROL
Torque-control curve - 1st version
1st speed 1/min : 800
C-rod trav.mm : 11.80...11.90
2nd speed 1/min : 1200
C-rod trav.mm : 11.50...11.60
3rd speed 1/min : 1050
C-rod trav.mm : 11.60...11.80
4th speed 1/min : 1150
C-rod trav.mm : 11.50...11.60

compensator (LDA,ADA,ALDA)

1st version
Setting
Speed 1/min : 500
Pressure hPa : 130
Contr.-rod trav.mm: 11.00...11.10

Measurement
Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 10.70...10.80
2nd pressure hPa : 240
C-rod trav.mm : 11.40...11.70
3rd pressure hPa : 800
C-rod trav.mm : 11.80...11.90

SWITCH-OVER POINT
Speed 1/min : 280 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 800
Speed 1/min : 1200
Del.quantity cm³/ : 107.0...111.0
1000H.: (105.0...113.0)
Dispersion cm³/ : 6.50
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm³/ : 85.5...87.5
1000H.: (83.5...89.5)

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R 7
Edition : 09.03.87
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 446 161

Injection pump
Pump designation : PES6MW100/32ORS1134
EP type number : 0 413 406 125
Governor
Governor design. : RQV350...1200MW46-1
Governor no. : 0 420 083 091

Customer-spec. information
Customer : NAVI-STAR

Engine : DTA-466C

1st version kW : 172.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 30...32

Prestroke mm : 2.95...3.05
: (2.90...3.10)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm³/ : 12.1...12.3

100H.: (11.9...12.5)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 6.5...6.6

Del.quantity cm³/ : 1.8...2.2

100H.: (1.5...2.4)

Dispersion cm³/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1380

Contr.-rod travelmm: 6.70...9.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Charge press. hPa : 800

Del.quantity cm³/ : 121.5...123.5

1000H.: (119.5...125.5)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 45...50

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 1250...1260

2nd c-rod trav.mm : 4.00

Speed 1/min : 1395...1405

4th speed 1/min : 1460

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 9...17

Setting point w/out aux. spring

Speed 1/min : 350

Contr.-rod trav.mm: 6.5...6.6

Testing:

Speed 1/min : 100

C-rod trav.mm min : 9.00

Speed 1/min : 350

C-rod trav.mm : 6.50...6.60

CONSTANT REGULATION

Speed 1/min : 370...500

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 240

Contr.-rod trav.mm: 10.40...10.50

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 9.80...9.90

2nd pressure hPa : 520

C-rod trav.mm : 11.90...12.20

3rd pressure hPa : 800

C-rod trav.mm : 12.80...12.90

SWITCH-OVER POINT

Speed 1/min : 280 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 800

Speed 1/min : 1200

Del.quantity cm³/ : 124.5...128.5

1000H.: (122.5...130.5)

Dispersion cm³/ : 6.50

1000H.: (7.00)

Charge press. hPa : -

Speed 1/min : 500

Del.quantity cm³/ : 65.5...67.5

1000H.: (63.5...69.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R 9
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 172
 Injection pump
 Pump designation : PES6MW100/32ORS1134
 EP type number : 0 413 406 125
 Governor
 Governor design. : RQV350...1300MW46-5
 Govenner no. : 0 420 083 105

Customer-spec. information
 Customer : NAVI-STAR

Engine : DTI-466C

1st version kW : 156.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
 assembly : 1 688 901 016

Opening
 pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 2.95...3.05
 : (2.90...3.10)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 11.60...11.70

Del.quantity cm3/ : 10.8...11.0

100H.: (10.6...11.2)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 6.1...6.2

Del.quantity cm3/ : 1.8...2.2

100H.: (1.5...2.4)

Dispersion cm3/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1355

Cont.-rod travelmm: 8.00...0.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 900

Charge press. hPa : 800

Del.quantity cm3/ : 108.5...110.5

1000H.: (106.5...112.5)

Dispersion cm3/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 46...51

Testing:

1st c-rod trav.mm : 10.60

Speed 1/min : 1345...1365

2nd c-rod trav.mm : 4.00

Speed 1/min : 1455...1465

3rd c-rod trav.mm : 0.00...1.00

Speed 1/min : 1575

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 6.1...6.2

Testing:
Speed 1/min : 100
C-rod trav.mm min : 9.00

CONSTANT REGULATION

Speed 1/min : 360...540

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 280
Contr.-rod trav.mm: 9.5...9.6

Measurement

Speed 1/min : 500

1st pressure hPa : 800
C-rod trav.mm : 11.60...11.70
2nd pressure hPa : -
C-rod trav.mm : 8.80...8.90
3rd pressure hPa : 620
C-rod trav.mm : 10.90...11.00

SWITCH-OVER POINT

Speed 1/min : 220-280

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 800
Speed 1/min : 1300
Del.quantity cm3/ : 114.0...118.0
1000H.: (112.0...120.0)
Dispersion cm3/ : 6.50
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 55.0...57.0
1000H.: (53.0...59.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R12
 Edition : 17.12.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 176
 Injection pump
 Pump designation : PES6MW100/32ORS1140
 EP type number : 0 413 406 135
 Governor
 Governor design. : RQV350...1200MW72
 Governer no. : 0 420 083 109

Customer-spec. information
 Customer : NAVI-STAR

Engine : DT-466 C

1st version kW : 123.0
 Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
 assembly : 1 688 901 016

Opening
 pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
 : (3.90...4.10)
 Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

 Contr.-rod trav.mm: 11.00...11.10

 Del.quantity cm3/ : 8.6...8.8

 100H.: (8.4...9.0)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 350.0
 Contr.-rod trav. m: 6.4...6.5
 Del.quantity cm3/ : 1.6...2.0
 100H.: (1.3...2.2)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1250
 Sleeve travel mm: 7.80...8.00
 2nd speed 1/min: 1340
 Sleeve travel mm: 8.80...9.20
 3rd speed 1/min: 500
 Sleeve travel mm: 2.60...3.20
 4th speed 1/min: 350
 Sleeve travel mm: 1.30...1.80

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1380
 Cont.-rod travelmm: 6.60...9.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 800
 Del.quantity cm3/ : 86.0...88.0
 1000H.: (84.0...90.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 46...51

Testing:

1st c-rod trav.mm : 10.00
Speed 1/min : 1240...1260
2nd c-rod trav.mm : 4.00
Speed 1/min : 1350...1360
4th speed 1/min : 1450
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 6.4...6.5

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.00
Speed 1/min : 350
C-rod trav.mm : 6.40...6.50

CONSTANT REGULATION

Speed 1/min : 370...450

SWITCH-OVER POINT

Speed 1/min : 280 (290)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1200
Del.quantity cm³/ : 89.0...93.0
1000H.: (87.0...95.0)
Dispersion cm³/ : 6.50
1000H.: (7.00)

Remarks:



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 19
Edition : 07.01.87
Superceeded : 28.11.86
Calibrating oil : ISO-4113

Combination no. : 0 403 446 184

Injection pump
Pump designation : PES6MW100/72ORS1139
EP type number : 0 413 406 138
Governor
Governor design. : RQV300...1300MW48-3
Governor no. : 0 420 083 121

Customer-spec. information
Customer : DB

Engine : OM366A

1st version kW : 125.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
 : (3.65...3.85)
Contr.-rod trav.mm: 19.00...21.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁹ : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 10.90...11.00

Del.quantity cm3/ : 8.0...8.2

100H.: (7.8...8.4)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 7.8...7.9
Del.quantity cm3/ : 1.0...1.4
100H.: (0.9...1.5)
Dispersion cm3/ : 0.35
100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1340
Sleeve travel mm: 8.50...8.70
2nd speed 1/min: 1450
Sleeve travel mm: 9.30...9.70
3rd speed 1/min: 500
Sleeve travel mm: 2.70...3.30
4th speed 1/min: 300
Sleeve travel mm: 1.20...1.70

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1350
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1300
Del.quantity cm3/ : 80.0...82.0
1000H.: (78.0...84.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:

1st c-rod trav.mm : 9.90
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1425...1455
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 7.8...7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.30
Speed 1/min : 300
C-rod trav.mm : 7.80...7.90

CONSTANT REGULATION

Speed 1/min : 330...500

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 10.90...11.00
2nd speed 1/min : 800
C-rod trav.mm : 11.60...11.80
3rd speed 1/min : 585
C-rod trav.mm : 11.80...12.00

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800
Del.quantity cm3/ : 77.5...79.5
1000H.: (75.5...81.5)
Dispersion cm3/ : 5.00
1000H.: (7.00)
Speed 1/min : 585
Del.quantity cm3/ : 75.0...77.0
1000H.: (73.0...79.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 19
Edition : 07.01.87
Superceeded : 28.11.86
Calibrating oil : ISO-4113

Combination no. : 0 403 446 184

Injection pump
Pump designation : PES6MW100/72ORS1139
EP type number : 0 413 406 138
Governor
Governor design. : RQV300...1300MW48-3
Governor no. : 0 420 083 121

Customer-spec. information
Customer : DB

Engine : OM366A

1st version kW : 125.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)
Contr.-rod trav.mm: 19.00...21.00

E23

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 10.90...11.00

Del.quantity cm3/ : 8.0...8.2

100H.: (7.8...8.4)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 7.8...7.9
Del.quantity cm3/ : 1.0...1.4
100H.: (0.9...1.5)
Dispersion cm3/ : 0.35
100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1340
Sleeve travel mm: 8.50...8.70
2nd speed 1/min: 1450
Sleeve travel mm: 9.30...9.70
3rd speed 1/min: 500
Sleeve travel mm: 2.70...3.30
4th speed 1/min: 300
Sleeve travel mm: 1.20...1.70

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1350
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1300
Del.quantity cm3/ : 80.0...82.0
1000H.: (78.0...84.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:

1st c-rod trav.mm : 9.90
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1425...1455
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 7.8...7.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 9.30
Speed 1/min : 300
C-rod trav.mm : 7.80...7.90

CONSTANT REGULATION

Speed 1/min : 330...500

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300
C-rod trav.mm : 10.90...11.00
2nd speed 1/min : 800
C-rod trav.mm : 11.60...11.80
3rd speed 1/min : 585
C-rod trav.mm : 11.80...12.00

SWITCH-OVER POINT

Speed 1/min : 230 (250)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800
Del. quantity cm³/ : 77.5...79.5
1000H.: (75.5...81.5)
Dispersion cm³/ : 5.00
1000H.: (7.00)
Speed 1/min : 585
Del. quantity cm³/ : 75.0...77.0
1000H.: (73.0...79.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R15
Edition : 10.12.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 403 446 185

Injection pump
Pump designation : PES6MW100/32ORS1140
EP type number : 0 413 406 135
Governor
Governor design. : RQV350...1200MW72-1
Governor no. : 0 420 083 122

Customer-spec. information
Customer : NAVISTAR

Engine : DT-466 C

1st version kW : 134.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
: (3.90...4.10)
Contr.-rod trav.mm: 9.00...12.00

E25

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 11.40...11.50

Del.quantity cm3/ : 9.1...9.3

100H.: (8.9...9.5)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 6.6...6.7
Del.quantity cm3/ : 1.6...2.0
100H.: (1.3...2.2)
Dispersion cm3/ : 0.35
100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1250
Sleeve travel mm: 7.80...8.00
2nd speed 1/min: 1340
Sleeve travel mm: 8.80...9.20
3rd speed 1/min: 500
Sleeve travel mm: 2.60...3.20
4th speed 1/min: 350
Sleeve travel mm: 1.30...1.80

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1380
Cont.-rod travelmm: 6.70...9.30

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 800
Charge press. hPa : 700
Del.quantity cm3/ : 91.5...93.5
1000H.: (89.5...95.5)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 42...47

Testing:
1st c-rod trav.mm : 10.40
Speed 1/min : 1250...1270
2nd c-rod trav.mm : 4.00
Speed 1/min : 1360...1370
4th speed 1/min : 1450
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 6.6...6.7

Testing:
Speed 1/min : 100
C-rod trav.mm min : 9.00
Speed 1/min : 350
C-rod trav.mm : 6.60...6.70

CONSTANT REGULATION

Speed 1/min : 370...500

SWITCH-OVER POINT

Speed 1/min : 280 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 700
Speed 1/min : 1200
Del. quantity cm³/ : 94.0...98.0
1000H.: (92.0...100.0)
Dispersion cm³/ : 6.50
1000H.: (7.00)

Perform pump setting only with IH hose
with restriction of 1.2 mm diameter.

In unlatched condition, do not
operate greater than $n = 500$ 1/min

Set low idle at stop screw.

Set shutoff stop 1.5...2.0 mm before
shutoff.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 6,1 N 7
 Edition : 09.03.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 446 186
 Injection pump
 Pump designation : PES6MW100/72ORS1133
 EP type number : 0 413 406 126
 Governor
 Governor design. : RQV325...1325MW29
 Govenner no. : 0 420 083 0123

Customer-spec. information
 Customer : KHD

Engine : BF 6L 913

1st version kW : 124.0
 Speed 1/min: 2650

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values _____

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
 Contr.-rod trav.mm: 9.00...12.00

E27

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1325

 Contr.-rod trav.mm: 10.50...10.60

 Del.quantity cm3/ : 10.1...10.3

 100H.: (9.9...10.5)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 325.0
 Contr.-rod trav. m: 6.8...6.9
 Del.quantity cm3/ : 1.1...1.5
 100H.: (0.9...1.7)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1375
 Sleeve travel mm: 8.70...8.90
 2nd speed 1/min: 1430
 Sleeve travel mm: 9.50...9.90
 3rd speed 1/min: 325
 Sleeve travel mm: 1.50...1.90
 4th speed 1/min: 600
 Sleeve travel mm: 2.70...3.30

SLEEVE POSITION

Control-lever position
 Degree: -1
 Speed 1/min: 1400
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1325
 Charge press. hPa : 900
 Del.quantity cm3/ : 101.0...103.0
 1000H.: (99.0...105.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 50...58

Del.quantity cm³/ : 57.0...59.0
1000H.: (55.0...61.0)

Testing:
1st c-rod trav.mm : 9.50
Speed 1/min : 1370...1380
2nd c-rod trav.mm : 4.00
Speed 1/min : 1445...1475
4th speed 1/min : 1550
C-rod trav.mm : 0.10...1.00

Remarks:

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25
Setting point w/out aux. spring
Speed 1/min : 325
Contr.-rod trav.mm: 6.8...6.9

Testing:
Speed 1/min : 100
C-rod trav.mm min : 8.60
Speed 1/min : 325
C-rod trav.mm : 6.80...6.90

CONSTANT REGULATION

Speed 1/min : 350...650

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 450
Contr.-rod trav.mm: 10.20...10.00

Measurement
Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 8.90...10.00
2nd pressure hPa : 450
C-rod trav.mm : 10.20...10.00
3rd pressure hPa : 900
C-rod trav.mm : 10.50...10.60

SWITCH-OVER POINT

Speed 1/min : 245 (255)

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 900
Speed 1/min : 850
Del.quantity cm³/ : 93.0...97.0
1000H.: (91.0...99.0)
Dispersion cm³/ : 3.50
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500

E28

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 21
Edition : 09.03.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 403 446 187
Injection pump
Pump designation : PES6MW100/72ORS1129
EP type number : 0 413 406 121
Governor
Governor design. : RQV300...1300MW50-2
Governor no. : 0 420 083 124

Customer-spec. information
Customer : DB

Engine : OM 366 LA

1st version kW : 150.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness : 6.00X2.00X600
x Length mm

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.70...3.80
: (3.65...3.85)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm³/ : 8.9...9.1

100H.: (9.1...9.7)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 4.8...4.9

Del.quantity cm³/ : 1.0...1.2

100H.: (0.8...1.6)

Dispersion cm³/ : 0.35

100H.: (0.5)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 1340

Sleeve travel mm: 8.60...8.80

2nd speed 1/min: 1430

Sleeve travel mm: 9.30...9.70

3rd speed 1/min: 300

Sleeve travel mm: 1.20...1.60

4th speed 1/min: 700

Sleeve travel mm: 3.80...4.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Charge press. hPa : 700

Del.quantity cm³/ : 89.0...91.0

1000H.: (91.0...97.0)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 48...56

Testing:

1st c-rod trav.mm : 12.20

Speed 1/min : 1340...1350

2nd c-rod trav.mm : 4.00

Speed 1/min : 1460...1490

4th speed 1/min : 1550

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 11...19

Setting point w/out aux. spring

Speed 1/min : 300

Contr.-rod trav.mm: 4.85

Testing:

Speed 1/min : 100

C-rod trav.mm min : 7.00

Speed 1/min : 300

C-rod trav.mm : 4.80...4.90

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

CONSTANT REGULATION

Speed 1/min : 320...530

compensator (LDA, ADA, ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 400

Contr.-rod trav.mm: 11.70...11.80

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 11.20...11.30

2nd pressure hPa : 500

C-rod trav.mm : 12.60...12.90

3rd pressure hPa : 700

C-rod trav.mm : 13.20...13.30

SWITCH-OVER POINT

Speed 1/min : 220 (230)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700

Speed 1/min : 700

Del.quantity cm³/ : 85.5...89.5

1000H.: (83.5...91.5)

Dispersion cm3/ : 5.00
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del. quantity cm3/ : 53.0...55.0
1000H.: (51.0...57.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : PER 10,0 R
Edition : 05.11.86
Superceeded : 3.83
Calibrating oil : ISO-4113

Combination no. : 0 403 448 118

Injection pump
Pump designation : PES8MW100/72ORS1106
EP type number : 0 413 408 008
Governor
Governor design. : RQV275...1125MW40
Governor no. : 0 420 083 043

Customer-spec. information
Customer : PERKINS

Engine : V8.640GR

1st version kW : 147.0
Speed 1/min: 2250

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 173...176

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.00...3.10
: (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 8- 7- 5- 4- 3-
6- 2

SD ang. spacing^oCS: 0-45-90-135-180-225-
270-315

Tolerance + - ^o : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 13.40...13.50

Del.quantity cm³/ : 9.0...9.2

100H.: (8.8...9.4)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 8.8...8.9

Del.quantity cm³/ : 1.3...1.7

100H.: (1.1...2.0)

Dispersion cm³/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1190

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Del.quantity cm³/ : 90.5...92.5

1000H.: (88.5...94.5)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 60...68

Testing:

1st c-rod trav.mm : 12.40

Speed 1/min : 1175...1185

2nd c-rod trav.mm : 4.00

Speed 1/min : 1260...1290

4th speed 1/min : 1350

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 13...21

Setting point w/out aux. spring

Speed 1/min : 275

Contr.-rod trav.mm: 8.85

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.30

Speed 1/min : 275

C-rod trav.mm : 8.80...8.90

CONSTANT REGULATION

Speed 1/min : 300...500

SWITCH-OVER POINT

Speed 1/min : 195 (215)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 5,5 A 1
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 403 476 013

Injection pump
Pump designation : PES6MW80/32ORS1104
EP type number : 0 413 486 002
Governor
Governor design. : RSV300...1450MWOA801
-1
Governor no. : 0 420 085 067

Customer-spec. information
Customer : RVI

Engine : MD060212

1st version kW : 97.8
Speed 1/min: 2900

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 2 417 413 028

Inlet press., bar : 2.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 173...176

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 1.75...1.85
: (1.70...1.90)

F07

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Del.quantity cm³/ : 5.2...5.4

100H.: (5.0...5.6)

Dispersion cm³/ : 0.25

100H.: (0.4)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 4.5...4.6
Del.quantity cm³/ : 1.2...1.5
100H.: (1.1...1.7)
Dispersion cm³/ : 0.2
100H.: (0.3)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 900
Del.quantity cm³/ : 52.5...54.5
1000H.: (50.5...56.5)
Dispersion cm³/ : 2.50
1000H.: (4.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 56...64

Testing:

1st c-rod trav.mm : -2.00
Speed 1/min : 1520...1530
2nd c-rod trav.mm : -7.20
Speed 1/min : 1615...1645
3rd c-rod trav.mm : -9.50...-10.4
Speed 1/min : 1700

LOWEST RATED SPEED I

Control-lever
position degrees: 29...37
Setting point w/out aux. spring
Speed 1/min : 300

Contr.-rod trav.mm: -4.55

Testing:

Speed 1/min : 250
C-rod trav.mm min : -3.2
Speed 1/min : 300
C-rod trav.mm : -4.5...-4.6

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 900
2nd speed 1/min : 1450
C-rod trav.mm : -0.90...-1.00
3rd speed 1/min : 1100
C-rod trav.mm : -0.50...-0.70

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1450
Del.quantity cm³/ : 54.5...56.5
1000H.: (52.5...58.5)
Dispersion cm³/ : 3.50
1000H.: (4.50)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 6,0 D 22
 Edition : 10.12.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 476 027
 Injection pump
 Pump designation : PES6MW100/72ORS1124
 EP type number : 0 413 406 118
 Governor
 Governor design. : RSV350...1300MWOA316
 Governor no. : 0 420 085 047

Customer-spec. information
 Customer : DB

Engine : 0M366A

1st version kW : 125.0
 Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32
 Prestroke mm : 3.70...3.80
 : (3.65...3.85)
 Contr.-rod trav.mm: 9.00...12.00

F09

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1300

 Contr.-rod trav.mm: 10.70...10.80

 Del.quantity cm3/ : 8.0...8.2

 100H.: (7.8...8.4)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 350.0
 Contr.-rod trav. m: 7.0...7.6
 Del.quantity cm3/ : 1.0...1.2
 100H.: (0.8...1.4)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.00

Governor-spring reload
 Notch setting x : 4.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1300
 Del.quantity cm3/ : 80.0...82.0
 1000H.: (78.0...84.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 54...61
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 1400...1430
 4th speed 1/min : 1450
 C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
 position degrees: 12...20
 C-rod trav.mm : 2.00
 Speed 1/min : 445...505

SET IDLE AUXILIARY SPRING

Speed 1/min : 350

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1300

C-rod trav.mm : 10.70...10.80

2nd speed 1/min : 700

C-rod trav.mm : 12.30...12.40

3rd speed 1/min : 825

C-rod trav.mm : 11.90...12.10

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700

Del.quantity cm3/ : 80.0...82.0

1000H.: (78.0...84.0)

Dispersion cm3/ : 5.00

1000H.: (7.00)

Speed 1/min : 825

Del.quantity cm3/ : 80.5...82.5

1000H.: (77.5...85.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 K 1
 Edition : 12.09.86
 Superceeded : 11.85
 Calibrating oil : ISO-4113
 Combination no. : 0 403 476 030
 Injection pump
 Pump designation : PES6MW100/32ORS1109
 EP type number : 0 413 406 104
 Governor
 Governor design. : RSV350...1250MW2/313
 -3
 Governer no. : 0 420 085 049

Customer-spec. information
 Customer : NAVI-STAR

Engine : DTI-466 C

1st version kW : 160.0
 Speed 1/min: 2500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
 assembly : 1 688 901 016

Opening
 pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
 : (3.90...4.10)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 800

Contr.-rod trav.mm: 13.40...13.50

Del.quantity cm³/ : 11.6...11.8

100H.: (11.4...12.0)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 350.0

Contr.-rod trav. m: 6.3...6.4

Del.quantity cm³/ : 1.8...2.3

100H.: (1.6...2.5)

Dispersion cm³/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 800

Charge press. hPa : 900

Del.quantity cm³/ : 116.5...118.5

1000H.: (114.5...120.5)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 52...57

Testing:

1st c-rod trav.mm : 11.20

Speed 1/min : 1290...1300

2nd c-rod trav.mm : 4.00

Speed 1/min : 1390...1400

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1470

LOWEST RATED SPEED I

Control-lever

position degrees: 20...28
Setting point w/out aux. spring
Speed 1/min : 350
Contr.-rod trav.mm: 6.35

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 350
C-rod trav.mm : 6.3...6.4

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 4.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 800
C-rod trav.mm : 13.40...13.50
2nd speed 1/min : 1250
C-rod trav.mm : 12.20...12.30
3rd speed 1/min : 840
C-rod trav.mm : 13.40...13.50
4th speed 1/min : 1200
C-rod trav.mm : 12.20...12.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.40...13.50

Measurement

Speed 1/min : 500

1st pressure hPa : 490
C-rod trav.mm : 12.70...13.00
2nd pressure hPa : 200
C-rod trav.mm : 11.80...11.90
3rd pressure hPa : -
C-rod trav.mm : 11.40...11.50

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 900
Speed 1/min : 1250
Del. quantity cm³/ : 105.0...107.0
1000H.: (103.0...109.0)
Dispersion cm³/ : 6.50
1000H.: (7.00)
Charge press. hPa : -
Speed 1/min : 500
Del. quantity cm³/ : 82.0...84.0
1000H.: (79.0...87.0)

Remarks:

Starting/full-load transition speed
from holding magnet = 500 1/min.

Start-of-delivery mark: stop lever
25° toward shutoff: control-rod
travel = 9...12 mm. (Free travel of
stop lever must have been overcome
beforehand.)

Set low idle at stop screw.

Set shutoff stop 1.5...2.0 mm before
shutoff.

Check hydraulic latching of starting
fuel delivery with 1.5 bar air.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R 4
Edition : 12.09.86
Superceeded : 11.85
Calibrating oil : ISO-4113

Combination no. : 0 403 476 047

Injection pump
Pump designation : PES6MW100/32ORS1121
EP type number : 0 413 406 115
Governor
Governor design. : RSV500...1250MW2/312
-5
Governor no. : 0 420 085 058

Customer-spec. information
Customer : NAVI-STAR

Engine : DTI-466C

1st version kW : 167.0
Speed 1/min: 2500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 2 417 413 037

Inlet press., bar : 2.80

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
: (3.90...4.10)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 11.30...11.40

Del.quantity cm³/ : 10.8...11.0

100H.: (10.6...11.2)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 500.0

Contr.-rod trav. m: 5.4...5.5

Del.quantity cm³/ : 1.6...2.0

100H.: (1.3...2.2)

Dispersion cm³/ : 0.35

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 950

Del.quantity cm³/ : 108.0...110.0

1000H.: (106.0...112.0)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 50...55

Testing:

1st c-rod trav.mm : 10.30

Speed 1/min : 1315...1325

2nd c-rod trav.mm : 4.00

Speed 1/min : 1370...1380

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1400

LOWEST RATED SPEED I

Control-lever

position degrees: 24...32

Setting point w/out aux. spring

Speed 1/min : 500

Contr.-rod trav.mm: 5.45

Testing:

Speed 1/min : 100

C-rod trav.mm min : 19.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1250

Del.quantity cm3/ : 110.5...114.5

1000H.: (108.5...116.5)

Dispersion cm3/ : 6.50

1000H.: (7.00)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 7,6 R 8
 Edition : 12.09.86
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 403 476 050
 Injection pump
 Pump designation : PES6MW100/32ORS1121
 EP type number : 0 413 406 115
 Governor
 Governor design. : RSV500...1250MW2A312
 -6
 Governer no. : 0 420 085 063

Customer-spec. information
 Customer : NAVI-STAR

Engine : DT-466 C
 1st version kW : 160.3
 Speed 1/min: 2500

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 2 417 413 037
 Inlet press., bar : 2.80
 Calibrating nozzle-holder
 assembly : 1 688 901 016
 Opening
 pressure, bar : 207...210

Test inj. tubing : 1 680 750 008
 Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 30...32

Prestroke mm : 3.95...4.05
 : (3.90...4.10)

F15

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 950

 Contr.-rod trav.mm: 11.80...11.90

 Del.quantity cm3/ : 10.8...11.0

 100H.: (10.6...11.2)

 Dispersion cm3/ : 0.35

 100H.: (0.6)

 2nd speed 1/min: 500.0
 Contr.-rod trav. m: 6.2...6.3
 Del.quantity cm3/ : 1.8...2.2
 100H.: (1.3...2.6)
 Dispersion cm3/ : 0.35
 100H.: (0.5)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 950
 Del.quantity cm3/ : 108.0...110.0
 1000H.: (106.0...112.0)
 Dispersion cm3/ : 3.50
 1000H.: (6.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 49...54

Testing:

1st c-rod trav.mm : 10.60
 Speed 1/min : 1295...1305
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1365...1375
 3rd c-rod trav.mm : 0.30...1.70
 Speed 1/min : 1400

LOWEST RATED SPEED I

Control-lever
 position degrees: 22...30

Setting point w/out aux. spring

Speed 1/min : 500

Contr.-rod trav.mm: 6.25

Testing:

Speed 1/min : 100

C-rod trav.mm min : 19.00

Speed 1/min : 500

C-rod trav.mm : 6.2...6.3

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 4.00

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1250

Del.quantity cm³/ : 107.0...111.0

1000H.: (105.0...113.0)

Dispersion cm³/ : 6.50

1000H.: (7.00)

Remarks:

Start-of-delivery mark: stop lever
25° toward shutoff: control-rod
travel = 9...12 mm. (Free travel of
stop lever must have been overcome
beforehand.)

Set low idle at stop screw.

Set shutoff stop 1.5...2.0 mm before
shutoff.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MTU 47.6 C
Edition : 23.3.87
Superceeded : 3.85
Calibrating oil : ISO-4113

Combination no. : 0 406 030 999

Injection pump
Pump designation : PEV12ZWM160/12ORS
1030/11
EP type number : 0 416 060 999
Governor
Governor design. : RQU425...600/1300ZWA
62-1
Governor no. : 0 422 405 016

Customer-spec. information
Customer : MTU

Engine : MB 873

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C : 42...45

Overflow valve : -

Inlet press., bar : 3.0

Overflow
quantity min. 1/h: 600...720

Calibrating nozzle-holder
assembly : 0 681 443 022

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 069

Outside diameter
x Wall thickness
x Length mm : 8,00x2,00x1500

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.50...2.60
: (2.45...2.65)

Contr.-rod trav.mm: 12.00
Cam sequence : 12-9-3-6-8-11-1-4-10
-7-5-2

SD ang. spacing°CS: 0-15-60-75-120-180-
195-240-255-300-315
Tolerance + - ° : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1300

Contr.-rod trav.mm: 9.00

Del.quantity cm3/ : 24.5...26.3 *

100H.: (24.2...26.6)

Dispersion cm3/ : 1.80

100H.: (2.70)

2nd speed 1/min: 425

Contr.-rod trav. m: 6.80

Del.quantity cm3/ : 7.8...8.8 *

100H.: (-)

Dispersion cm3/ : 1.6

100H.: (-)

1st speed 1/min: 1300

Contr.-rod trav.mm: 9.00

Del.quantity cm3/ : 22.2...24.0**

100H.: (21.9...24.3)

Dispersion cm3/ : 1.80

100H.: (2.70)

2nd speed 1/min: 425

Contr.-rod trav.mm: 6.80

Del.quantity cm3/ : 5.7...6.7 **

100H.: (-)

Dispersion cm3/ : 1.60

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: 45...55

Speed 1/min: 800

Cont.-rod travelmm: 12.00...12.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1300

Del.quantity cm3/ : 375.0...379.0 *

1000H.: (372.0...382.0)

Dispersion cm3/ : 8.0

1000H.: (12.0)

2nd version

Speed 1/min: 1300

Del. quantity cm³/ : 357.0...361.0**
1000H.: (354.0...364.0)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...54

Setting point:

Speed 1/min : 1300

Contr.-rod trav.mm: 13.8

Testing:

1st c-rod trav.mm : 12.80

Speed 1/min : 1325...1340

2nd c-rod trav.mm : 4.00

Speed 1/min : 1460

4th speed 1/min : 1510...1570

C-rod trav.mm : 0...0.1

LOWEST RATED SPEED I

Control-lever

position degrees: 15...21

Setting point w/out aux. spring

Speed 1/min : 425

Contr.-rod trav.mm: 6.40...6.60

Speed 1/min : 300

C-rod trav.mm : 10.80...14.00

C-rod trav.mm : 500

Speed 1/min : 3.20...5.3

C-rod trav.mm max : 0.01

Speed 1/min : 550...640

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : SCA 11,0 V7
Edition : 24.11.86
Superseded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 087 370
Injection pump
Pump designation : PE6P120A72ORS7004
EP type number : 0 412 626 801
Governor
Governor design. : RSV350...90QP7/481
Governor no. : 9 420 082 320

Customer-spec. information
Customer : SAAB-SCANIA

Engine : DS 11

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25..27

Prestroke mm : 5.00...5.10
: (4.95...5.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.5 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm³/ : 20.8...21.0

100H.: (20.5...21.3)

Dispersion cm³/ : 0.6

100H.: (0.9)

2nd speed 1/min: 350

Contr.-rod trav. m: 5.40...5.60

Del.quantity cm³/ : 1.20...1.8

100H.: (0.9...2.1)

Dispersion cm³/ : 0.8

100H.: (1.2)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 6.0

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 900

Del.quantity cm³/ : 208.0...210.0

1000H.: (205.0...213.0)

Dispersion cm³/ : 6.0

1000H.: (9.0)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 46...54

Testing:

1st c-rod trav.mm : 11.80

Speed 1/min : 920...925

2nd c-rod trav.mm : 4.00

Speed 1/min : 960...970

4th speed 1/min : 1050

C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Setting point w/out aux. spring

Speed 1/min : 350

Contr. rod trav.mm: 4.00

Speed 1/min : 350

C-rod trav.mm : 4.40...4.60

C-rod trav.mm : 2.00

Speed 1/min : 400...460

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 8,3 A 7
Edition : 25.2.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 002
Injection pump
Pump designation : PES6A100D420LS3024
Governor
Governor design. : RSV375...1050ASB2036
DR

Customer-spec. information
Customer : CASE

Engine : A-504 BDT

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40
Overflow valve : WS 187P
Inlet press., bar : 175
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.00...2.10
: (1.95...2.15)
Contr.-rod trav.mm: 12.20
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.20...12.30

Del.quantity cm3/ : 14.4...14.6

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 375
Contr.-rod trav. m: 6.00...6.20
Del.quantity cm3/ : 1.60...2.20
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 144.0...146.0
1000H.: (142.0...148.0)
Dispersion cm3/ : 3.00
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 42...50

Testing:
1st c-rod trav.mm : 11.20
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 3.00
Speed 1/min : 1175...1205

LOWEST RATED SPEED I

Control-lever
position degrees: 19...27
Setting point w/out aux. spring
Speed 1/min : 375
Contr.-rod trav.mm: 6.00

Testing:
Speed 1/min : 150
C-rod trav.mm min : 19.00
C-rod trav.mm : 2.60
Speed 1/min : 430...470

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050

C-rod trav.mm : 12.20...12.30

2nd speed 1/min : 700

C-rod trav.mm : 12.60...12.70

3rd speed 1/min : 600

C-rod trav.mm : 12.60...12.70

SWITCH-OVER POINT

Speed 1/min : 190

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700

Del.quantity cm3/ : 149.0...153.0

1000H.: (147.0...155.0)

Remarks:

: CASE NO. A 152735

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 8.3 A 8
Edition : 25.2.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 003
Injection pump
Pump designation : PES6A100D420LS3024
Governor
Governor design. : RSV375...1050A2B2035
DR

Customer-spec. information
Customer : CASE

Engine : A-504 BDT

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40

Overflow valve : WS 187P

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.00...2.10
: (1.95...2.15)
Contr.-rod trav.,mm: 11.30
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.,mm: 11.30...11.40

Del.quantity cm3/ : 12.9...13.1

100H.: (-)

Dispersion cm3/ : 30

100H.: (-)

2nd speed 1/min: 375
Contr.-rod trav. m: 6.00...6.10
Del.quantity cm3/ : 1.60...2.20
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 129...142
1000H.: (135...132)
Dispersion cm3/ : 3.00
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 46...54

Testing:
1st c-rod trav.,mm : 10.30
Speed 1/min : 1090...1100
2nd c-rod trav.,mm : 3.3
Speed 1/min : 1175...1205

LOWEST RATED SPEED I

Control-lever
position degrees: 25...33
Setting point w/out aux. spring
Speed 1/min : 375
Contr.-rod trav.,mm: 6.00

Testing:
Speed 1/min : 150
C-rod trav.,mm min : 19
C-rod trav.,mm : 2.6
Speed 1/min : 430...470

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.30
2nd speed 1/min : 700
C-rod trav.mm : 11.95...12.15
3rd speed 1/min : 600
C-rod trav.mm : 12.03

SWITCH-OVER POINT

Speed 1/min : 190

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700
Del.quantity cm3/ : 138.0...142.0
1000H.: (135.0...145.0)

Remarks:

: CASE NO.A-150570

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 8.3 K 5
Edition : 26.2.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 005
Injection pump
Pump designation : PES6A95D42OLS2551
Governor
Governor design. : RSV375...1070A2B
2034R

Customer-spec. information
Customer : CASE

Engine : A-504 BD

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve
: WS 187P

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 705

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.20...2.30
: (2.15...2.35)
Contr.-rod trav.mm: 13.35
Cam sequence : 1-5-4-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 13.35

Del.quantity cm3/ : 11.3...11.5

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 375

Contr.-rod trav. m: 8.10

Del.quantity cm3/ : 1.6...2.2

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Del.quantity cm3/ : 113...115

1000H.: (111...117)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 48...56

Testing:

1st c-rod trav.mm : 12.25

Speed 1/min : 1090...1100

2nd c-rod trav.mm : 6.90

Speed 1/min : 1170...1200

3rd c-rod trav.mm : 2.00

Speed 1/min : 1205...1235

LOWEST RATED SPEED I

Control-lever

position degrees: 27...35

Setting point w/out aux. spring

Speed 1/min : 375

Contr.-rod trav.mm: 8.10...8.20

Testing:

Speed 1/min : 150

C-rod trav.mm min : 19-21

C-rod trav.mm : 3.00

Speed 1/min : 530...570

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 425

C-rod trav.mm : 14.00...14.6

SWITCH-OVER POINT

Speed 1/min : 190

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700

Del.quantity cm3/ : 149...153

1000H.: (147...155)

Remarks:

: CASE NO. A-151333

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 6.6 B
Edition : 2.3.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 006
Injection pump
Pump designation : PES6A95D41ORS2559
Governor
Governor design. : RSV400...1200A2B2043
DL

Customer-spec. information
Customer : JOHN DEERE

Engine : 6404 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 36...44

Overflow valve : 1 423 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.35X2.08X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.85...1.95
: (1.80...2.00)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 8.80

Del.quantity cm3/ : 8.4...8.6

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.20
Del.quantity cm3/ : 1.1...1.5
100H.: (-)
Dispersion cm3/ : 3.0
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 144.0...146.0
1000H.: (142.0...148.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 44...52

Testing:

1st c-rod trav.mm : 7.80
Speed 1/min : 1245...1255
2nd c-rod trav.mm : 4.00
Speed 1/min : 1290...1320
3rd c-rod trav.mm : 4.00
Speed 1/min : 1290...1320
4th speed 1/min : 1400
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26

Testing:

Speed 1/min : 400
C-rod trav.mm min : 4.60
Speed 1/min : 400

C-rod trav.mm : 5.10...5.30
C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 585...645

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1200
C-rod trav.mm : 8.80
2nd speed 1/min : 800
C-rod trav.mm : 9.30...9.50

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800
Del.quantity cm³/ : 88.0...92.0
1000H.: (86.0...94.0)

Remarks: : JOHN DEERE NO. 88753

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 H
Edition : 2.3.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 007
Injection pump
Pump designation : PES6A95D410RS2560
Governor
Governor design. : RSV400...1100A7B
2044L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.85...1.95
(1.80...2.00)
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS : 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1080

Contr.-rod trav.mm: 10.20

Del.quantity cm3/ : 9.5...9.7

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 400

Contr.-rod trav. m: 5.80

Del.quantity cm3/ : 1.2...1.6

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1080

Del.quantity cm3/ : 95.0...97.0

1000H.: (93.0...99.0)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 66...74

Testing:

1st c-rod trav.mm : 9.20

Speed 1/min : 1115...1125

2nd c-rod trav.mm : 5.00

Speed 1/min : 1145

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1200

LOWEST RATED SPEED I

Control-lever

position degrees: 17...25

Testing:

Speed 1/min : 400

C-rod trav.mm min : 5.70

Speed 1/min : 100

C-rod trav.mm : 19.00...21.00

C-rod trav.mm : 5.80

Speed 1/min : 400

C-rod trav.mm : 2.00

Speed 1/min : 520...580

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 0...0.10

2nd speed 1/min : 750

C-rod trav.mm : 0...0.20

3rd speed 1/min : 450

C-rod trav.mm : 0.70...1.30

Remarks:

: JOHN DEERE NO. AR

: 88752

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 6.6 C
Edition : 2.3.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 008
Injection pump
Pump designation : PES6A100D41ORS3031
Governor
Governor design. : RSV400...1100A2B2045
DL

Customer-spec. information
Customer : JOHN DEERE

Engine : 6404 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.95...2.05
: (1.90...2.10)
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 10.15...10.25

Del.quantity cm³/ : 10.92...11.12

100H.: (-)

Dispersion cm³/ : 0.3

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.80
Del.quantity cm³/ : 3.33...1.73
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: --3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm³/ : 144.0...146.0
1000H.: (142.0...148.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48
3rd c-rod trav.mm : 10.15...10.2
Speed 1/min : 1100
4th speed 1/min : 1145...1155
C-rod trav.mm : 9.20
5th speed 1/min : 1200
C-rod trav.mm : 4.50

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25
Speed 1/min : 100
C-rod trav.mm : 19.00...21.00
C-rod trav.mm : 5.80
Speed 1/min : 400
C-rod trav.mm : 2.00
Speed 1/min : 480...540

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1100
C-rod trav.mm : 0...0.10
2nd speed 1/min : 500
C-rod trav.mm : 1.55...1.65

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 500
Del. quantity cm3/ : 122.3...125.3
1000H.: (120.3...127.3)
Speed 1/min : 550
Del. quantity cm3/ : 70.3...76.3
1000H.: (68.3...78.3)

Remarks:

: JOHN DEERE NO.
: AR 88756

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 M 1
Edition : 26.2.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 010
Injection pump
Pump designation : PES6A100D41ORS3032
Governor
Governor design. : RSV400...1100A2B2047
DL

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.0...2.1
 : (1.95...2.15)
Cam sequence : 1-5-3-6-2-4

SD ang. spacing °CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

G05

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 10.80

Del.quantity cm3/ : 10.65...10.85

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.10
Del.quantity cm3/ : 1.08...1.48
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 106.5...108.5
1000H.: (104.5...110.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:

1st c-rod trav.mm : 9.80
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 5.10
Speed 1/min : 1200

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25
Setting point w/out aux. spring
Speed 1/min : 400
Contr.-rod trav.mm: 6.10

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.00
C-rod trav.mm : 6.10
Speed 1/min : 400
C-rod trav.mm : 2.00
Speed 1/min : 450...510

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 10.8

2nd speed 1/min : 525

C-rod trav.mm : 12.6

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 525

Del.quantity cm3/ : 106.1...119.1

1000H.: (114.1...121.1)

Speed 1/min : 550

Del.quantity cm3/ : 81.1...87.1

1000H.: (79.1...89.1)

Remarks:

: JOHN DEERE NO. AR

: 88757

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 J 2
 Edition : 2.3.87
 Superceeded :
 Calibrating oil : ISO-4113
 Combination no. : 9 400 230 012
 Injection pump
 Pump designation : PES6A95D41ORS2561
 Governor
 Governor design. : RSV600...1100A2B2049
 L

Customer-spec. information
 Customer : JOHN DEERE

Engine : 6466 TH

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 36...44

Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Prestroke mm : 1.85...1.95
 : (1.80...2.00)
 Contr.-rod trav.mm: 10.50
 Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100

 Contr.-rod trav.mm: 11.35...11.45

 Del.quantity cm3/ : 11.2...11.4

 100H.: (-)

 Dispersion cm3/ : 3.0

 100H.: (-)

 2nd speed 1/min: 600
 Contr.-rod trav. m: 5.30...5.50
 Del.quantity cm3/ : 1.2...1.6
 100H.: (-)
 Dispersion cm3/ : 3.0
 100H.: (-)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1100
 Del.quantity cm3/ : 112.0...114.0
 1000H.: (110.0...116.0)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 36.5...44.5

Testing:

1st c-rod trav.mm : 10.40
 Speed 1/min : 1145...1155
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1220...1250
 3rd c-rod trav.mm : 0.30...1.70
 Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
 position degrees: 18...26

Testing:

Speed 1/min : 600
 C-rod trav.mm min : 4.90
 Speed 1/min : 600
 C-rod trav.mm : 5.40
 C-rod trav.mm : 19.0

Speed 1/min : 100
Speed 1/min : 850
C-rod trav.mm max : 1.00
C-rod trav.mm : 2.00
Speed 1/min : 750...810

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 U
Edition : 2.3.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 013
Injection pump
Pump designation : PES6A100D41ORS3033
Governor
Governor design. : RSV600...1100A2B2050
L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 AH

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 36...44
Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 1.95...2.05
: (1.90...2.10)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.15...12.25

Del.quantity cm³/ : 13.45...13.65

100H.: (-)

Dispersion cm³/ : 3.0

100H.: (-)

2nd speed 1/min: 600
Contr.-rod trav. m: 4.80...5.00
Del.quantity cm³/ : 1.3 ...1.7
100H.: (-)
Dispersion cm³/ : 3.0
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm³/ : 134.5...136.5
1000H.: (131.5...139.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 33...41

Testing:
1st c-rod trav.mm : 11.00
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23

Testing:
Speed 1/min : 600
C-rod trav.mm min : 4.40
Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 4.90

Speed 1/min : 600
Speed 1/min : 850
C-rod trav.mm max : 1.00
C-rod trav.mm : 2.00
Speed 1/min : 625...685

Remarks:

: JOHN DEERE NO.
: AR 97584

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 9.0 F 2
Edition : 3.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 015
Injection pump
Pump designation : PES8A75D32ORS2463
Governor
Governor design. : RQV300...1500AB1058
DR

Customer-spec. information
Customer : IH

Engine : DV 550 C

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : -

Inlet press., bar : 2.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 702

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.95...2.05 *
: (1.90...2.10)
Contr.-rod trav.mm: 10.70
Prestroke mm : **
Cam sequence : 1-8-7-3-6-5-4-2

SD ang. spacing°CS: 0-45-90-135-180-225-
270-315
Tolerance + - ° : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1500

Contr.-rod trav.mm: 9.65...9.75

Del. quantity cm3/ : 5.9...6.0

100H.: (-)

Dispersion cm3/ : 0.2

100H.: (-)

2nd speed 1/min: 300

Contr.-rod trav. m: 5.20

Del. quantity cm3/ : 1.5...2.0

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1600

Cont.-rod travelmm: 15.00...18.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1500

Del. quantity cm3/ : 58.8...59.8

1000H.: (55.8...61.8)

Dispersion cm3/ : 2.0

1000H.: (-)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 64...72

Testing:

1st c-rod trav.mm : 8.70

Speed 1/min : 1600...1610

2nd c-rod trav.mm : 9...14

Speed 1/min : 1700

3rd c-rod trav.mm : 3.00...9.50

Speed 1/min : 1800

4th speed 1/min : 2000

C-rod trav.mm : 0...0.10

LOWEST RATED SPEED I

Control-lever

position degrees: 6...14

Testing:

Speed 1/min : 200

C-rod trav.mm min : 8.20

Speed 1/min : 300
C-rod trav.mm : 5.40...7.30
C-rod trav.mm : 3.05
Speed 1/min : 450
Speed 1/min : 870
C-rod trav.mm max : 0.10
Speed 1/min : 600
C-rod trav.mm : 1.95

TORQUE CONTROL

Dimension a mm : 0.30
Torque-control curve - 1st version
1st speed 1/min : 1500
C-rod trav.mm : 9.70
2nd speed 1/min : 1000
C-rod trav.mm : 10.00...10.10
3rd speed 1/min : 700
C-rod trav.mm : 10.00...10.10

SWITCH-OVER POINT

Speed 1/min : 150...230

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1000
Del.quantity cm3/ : 50.5...52.5
1000H.: (47.5...54.5)
Speed 1/min : 300 *
Del.quantity cm3/ : 1.0...15.0
1000H.: (-)
Speed 1/min : 300**
Del.quantity cm3/ : 37.0...46.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 9.0 F 3
Edition : 3.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 016
Injection pump
Pump designation : PES8A75D32ORS2463
Governor
Governor design. : RQV300...1500AB1059
DR

Customer-spec. information
Customer : IHC

Engine : DV 550 C

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : -

Inlet press., bar : 2.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 702

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.95...2.05 *
: (1.90...2.00)
Contr.-rod trav.mm: 10.70
Prestroke mm : **
Cam sequence : 1-8-7-3-6-5-4-2

SD ang. spacing°CS: 45-90-135-180-225-
270-315
Tolerance + - ° : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1500

Contr.-rod trav.mm: 10.65...10.75

Del.quantity cm3/ : 6.8...6.9

100H.: (-)

Dispersion cm3/ : 0.2

100H.: (-)

2nd speed 1/min: 300
Contr.-rod trav. m: 6.00
Del.quantity cm3/ : 1.6...2.0
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1600
Cont.-rod travelmm: 15.00...18.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1500
Del.quantity cm3/ : 68.0...69.0
1000H.: (64.5...70.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 64...72

Testing:
1st c-rod trav.mm : 9.70
Speed 1/min : 1600...1610
2nd c-rod trav.mm : 9...14
Speed 1/min : 1700
3rd c-rod trav.mm : 3.00...9.50
Speed 1/min : 1800
4th speed 1/min : 2000
C-rod trav.mm : 0...0.10

LOWEST RATED SPEED I

Control-lever
position degrees: 6...14

Testing:
Speed 1/min : 200
C-rod trav.mm min : 8.20
Speed 1/min : 300
C-rod trav.mm : 5.40...7.30

C-rod trav.mm : 3.05
Speed 1/min : 450
Speed 1/min : 870
C-rod trav.mm max : 0.30
Speed 1/min : 600
C-rod trav.mm : 2.05

SWITCH-OVER POINT

Speed 1/min : 150...230

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 300 *
Del.quantity cm3/ : 1.0...15.0
1000H.: (0...16.0)
Speed 1/min : 300**
Del.quantity cm3/ : 37.0...46.0
1000H.: (35.5...47.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 C 5
Edition : 3.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 026
Injection pump
Pump designation : PES6A95D41ORS2522
Governor
Governor design. : RSV400...1100A2B2104
L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 000

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 3.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.90...2.00
: (1.85...2.05)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 9.80

Del.quantity cm3/ : 8.8...9.0

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.60
Del.quantity cm3/ : 1.2...1.6
100H.: (-)
Dispersion cm3/ : 3.0
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Charge press. hPa : 670
Del.quantity cm3/ : 88.0...90.0
1000H.: (85.0...93.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:
1st c-rod trav.mm : 8.80
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1220...1250
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:
Speed 1/min : 400
C-rod trav.mm min : 5.00
Speed 1/min : 400
C-rod trav.mm : 5.50...5.70

C-rod trav.mm : 19.00
Speed 1/min : 100
Speed 1/min : 750
C-rod trav.mm max : 1.00
C-rod trav.mm : 2.00
Speed 1/min : 610...670

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100
C-rod trav.mm : 9.75...9.85
2nd speed 1/min : 900
C-rod trav.mm : 10.00...10.30
3rd speed 1/min : 750
C-rod trav.mm : 10.45...10.55

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 670
Speed 1/min : 750
Del. quantity cm³/ : 97.0...100.0
1000H.: (93.0...104.0)
Speed 1/min : 550
Del. quantity cm³/ : 64.0...70.0
1000H.: (58.0...76.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 8,3 A 6
Edition : 26.2.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 230 027
Injection pump
Pump designation : PES6A100D42OLS3024
Governor
Governor design. : RSV375---1050A2B
2107R

Customer-spec. information
Customer : CASE

Engine : A 540 BDT

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 9 681 273 009

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00.600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 2.00...2.10
: (1.95...2.15)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050
Contr.-rod trav.mm: 12.70
Del.quantity cm3/ : 14.05...14.25
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (-)
2nd speed 1/min: 375
Contr.-rod trav. m: 5.70
Del.quantity cm3/ : 1.65...2.25
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 140.5...142.5
1000H.: (138.5...144.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 34.5...42.5

Testing:
1st c-rod trav.mm : 11.70
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1135...1165
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1230

LOWEST RATED SPEED I

Control-lever
position degrees: 14...22
Setting point w/out aux. spring
Speed 1/min : 375
Contr.-rod trav.mm: 5.10...5.30

Testing:
Speed 1/min : 375
C-rod trav.mm min : 5.60

Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 1.00
Speed 1/min : 600
C-rod trav.mm : 2.0
Speed 1/min : 425...485

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 12.65...12.75
2nd speed 1/min : 750
C-rod trav.mm : 13.00...13.30
3rd speed 1/min : 650
C-rod trav.mm : 13.15...13.25

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750
Del.quantity cm3/ : 142.0...148.0
1000H.: (141.0...149.0)
Speed 1/min : 650
Del.quantity cm3/ : 144.0
1000H.: (148.0)

Remarks:

: CASE NO. A 148173

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 5,5 A 2
 Edition : 26.2.87
 Superceeded :
 Calibrating oil : ISO-4113
 Combination no. : 9 400 230 034
 Injection pump
 Pump designation : PES4A100D420LS3023
 Governor
 Governor design. : RSV425...1100A0B
 2126R

Customer-spec. information
 Customer : CASE

Engine : A 336 BDT

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 9 681 273 009

Inlet press., bar : 1.5

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Prestroke mm : 2.0-2.1
 : (1.95...2.15)
 Contr.-rod trav.mm: 10.5
 Cam sequence : 1-3-4-2

SD ang. spacing°CS: 0-90-180-270
 Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100

 Contr.-rod trav.mm: 10.40

 Del. quantity cm3/ : 10.5...10.7

 100H.: (-)

 Dispersion cm3/ : 0.3

 100H.: (-)

 2nd speed 1/min: 425
 Contr.-rod trav. m: 6.60
 Del. quantity cm3/ : 1.6...2.2
 100H.: (-)
 Dispersion cm3/ : 0.3
 100H.: (-)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1100
 Del. quantity cm3/ : 105.5...107.5
 1000H.: (102.5...109.5)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 39...47

Testing:
 1st c-rod trav.mm : 9.40
 Speed 1/min : 1120...1130
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1205...1235
 3rd c-rod trav.mm : 0.30...1.70
 Speed 1/min : 1350

LOWEST RATED SPEED I

Control-lever
 position degrees: 23...31
 Setting point w/out aux. spring
 Speed 1/min : 425
 Contr.-rod trav.mm: 6.00...6.70

Testing:
 Speed 1/min : 425
 C-rod trav.mm min : 6.50

C-rod trav.mm : 2.00
Speed 1/min : 535...595

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100
C-rod trav.mm : 10.35...10.45
2nd speed 1/min : 700
C-rod trav.mm : 11.65...11.95
3rd speed 1/min : 600
C-rod trav.mm : 12.45...12.55

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700
Del.quantity cm3/ : 119.5...124.5
1000H.: (-)
Speed 1/min : 600
Del.quantity cm3/ : MAX 124.0
1000H.: (-)

Remarks: : CASE NO.A 154548

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 9.0 D
Edition : 11.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 036
Injection pump
Pump designation : PES8A95D32ORS2619
Governor
Governor design. : RQV32S...1600AB1143R

Customer-spec. information
Customer : IHC

Engine : D 9 L

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45
Overflow valve : 1 417 413 019

Inlet press., bar : 2.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.95...3.05
: (2.90...3.10)
Contr.-rod trav. mm: 10.50
Cam sequence : 1-8-7-3-6-5-4-2

SD ang. spacing°CS: 0-45-90-135-180-225-

G21

Tolerance + - ° : 270-315
: 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1600

Contr.-rod trav. mm: 12.80

Del. quantity cm3/ : 8.9...9.1

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 325
Contr.-rod trav. m: 7.60
Del. quantity cm3/ : 0.9...1.5
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: 66...74
Speed 1/min: 1620
Cont.-rod travel mm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1600
Del. quantity cm3/ : 89.0...91.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 63.5...71.5

Testing:
1st c-rod trav. mm : 11.80
Speed 1/min : 1640...1650
2nd c-rod trav. mm : 4.00
Speed 1/min : 1820...1850
3rd c-rod trav. mm : 0...1.00
Speed 1/min : 1925

LOWEST RATED SPEED I

Control-lever
position degrees: 8...16

Testing:
Speed 1/min : 325
C-rod trav. mm min : 7.70
Speed 1/min : 100
C-rod trav. mm : 9.30
C-rod trav. mm : 8.50

Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 855...915

CONSTANT REGULATION

Speed 1/min : 370...450

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1600
C-rod trav.mm : 12.70...12.90
2nd speed 1/min : 1000
C-rod trav.mm : 12.70...12.90

SWITCH-OVER POINT

Speed 1/min : 210...270

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1000
Del.quantity cm3/ : 86.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 9.0 E 3
Edition : 11.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 038
Injection pump
Pump designation : PES8A95D32ORS2624
Governor
Governor design. : RQV325...1400AB1149R

Customer-spec. information
Customer : IHC

Engine : D 9 L

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 019
Inlet press., bar : 2.5..
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.55...2.65
: (2.50...2.70)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-8-7-3-6-5-4-2

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1400

Contr.-rod trav.mm: 11.30

Del.quantity cm³/ : 6.95...7.15

100H.: (-)

Dispersion cm³/ : 0.3

100H.: (0.6)

2nd speed 1/min: 325
Contr.-rod trav. m: 7.10
Del.quantity cm³/ : 0.9...1.5
100H.: (-)
Dispersion cm³/ : 0.3
100H.: (0.55)

SLEEVE POSITION

Control-lever position
Degree: 67...71
Speed 1/min: 1430
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1400
Del.quantity cm³/ : 69.5...71.5
1000H.: (67.5...73.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 62...70

Testing:

1st c-rod trav.mm : 10.30
Speed 1/min : 1440...1450
2nd c-rod trav.mm : 4.00
Speed 1/min : 1545...1575
3rd c-rod trav.mm : 0...1.00
Speed 1/min : 1620

LOWEST RATED SPEED I

Control-lever
position degrees: 7...15

Testing:

Speed 1/min : 325
C-rod trav.mm min : 7.20
Speed 1/min : 100
C-rod trav.mm : 9.10
C-rod trav.mm : 2.00
Speed 1/min : 620...680

CONSTANT REGULATION

Speed 1/min : 370...450

SWITCH-OVER POINT

Speed 1/min : 170...250

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800

Del. quantity cm³/ : 59.0

1000H.: (63.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 J 1
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 046
Injection pump
Pump designation : PES6A95D41ORS2561
Governor
Governor design. : RSV600...1100A2B
2048-1L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 413 385 007

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.35X2.18X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 1.85...1.95
: (1.80...2.00)
Contr.-rod trav.mm: 10.5
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100
Contr.-rod trav.mm: 9.90
Del.quantity cm3/ : 9.10...9.30
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (-)
2nd speed 1/min: 600
Contr.-rod trav. m: 5.10
Del.quantity cm3/ : 1.2...1.6
100H.: (-)
Dispersion cm3/ : 0.3
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 91.0...93.0
1000H.: (88.0...96.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 44...52

Testing:
1st c-rod trav.mm : 8.90
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1195...1225
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 24...32

Testing:
Speed 1/min : 600
C-rod trav.mm min : 4.70
Speed 1/min : 600
C-rod trav.mm : 5.00...5.20
C-rod trav.mm : 19.00

Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 745...805

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100
C-rod trav.mm : 9.90
2nd speed 1/min : 950
C-rod trav.mm : 10.75...10.95

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 950
Del.quantity cm3/ : 104.0...108.0
1000H.: (102.0...110.0)

Remarks:

: JOHN DEERE NO.
: RE 10472

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CAS 8.3 K 4
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 051
Injection pump
Pump designation : PES6A95D420LS2551
Governor
Governor design. : RSV400...1100A0B2169

Customer-spec. information
Customer : J I CASE

Engine : A 504 BD

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 9 681 273 009

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00.600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.20...2.30
: (2.15...2.35)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.35

Del.quantity cm³/ : 9.60...9.80

100H.: (-)

Dispersion cm³/ : 0.3

100H.: (0.6)

2nd speed 1/min: 400
Contr.-rod trav. m: 7.30
Del.quantity cm³/ : 1.70...2.30
100H.: (-)
Dispersion cm³/ : 0.3
100H.: (0.55)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm³/ : 96.0...98.0
1000H.: (94.0...100.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 36...44

Testing:
1st c-rod trav.mm : 10.35
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1280...1340
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1360

LOWEST RATED SPEED I

Control-lever
position degrees: 20...28

Testing:
Speed 1/min : 400
C-rod trav.mm min : 6.70
Speed 1/min : 400
C-rod trav.mm : 7.20...7.40
C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00

Speed 1/min : 670...730

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700

Del.quantity cm³/ : 91.0...97.0

1000H.: (90.0...98.0)

Speed 1/min : 600

Del.quantity cm³/ : 93.5

1000H.: (97.5)

Remarks:

: CASE NO. A-156304

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 I 1
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 064
Injection pump
Pump designation : PES6A100D41ORS3040
Governor
Governor design. : RSV400...1100A2B2160
-1L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...44
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 1.95...2.05
: (1.90...2.10)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 10.00

Del.quantity cm3/ : 112...11.4

100H.: (-)

Dispersion cm3/ : 0.3

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.00
Del.quantity cm3/ : 1.2...1.8
100H.: (-)
Dispersion cm3/ : 0.4(-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Charge press. hPa : 800
Del.quantity cm3/ : 111.5...113.5
1000H.: (109.5...115.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 61...69

Testing:

1st c-rod trav.mm : 9.00
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1215
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 16...24

Testing:

Speed 1/min : 400
C-rod trav.mm min : 4.40
Speed 1/min : 400
C-rod trav.mm : 4.90...5.10
C-rod trav.mm : 19.00

Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 450...510

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1100
C-rod trav.mm : 10.00
2nd speed 1/min : 750
C-rod trav.mm : 10.45...10.75

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 800
Speed 1/min : 750
Del.quantity cm3/ : 114.0...120.0
1000H.: (113.0...121.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 87.0...91.0
1000H.: (85.0...93.0)

Remarks :
: JOHN DSEERE NO. RE
: 13406

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 H10
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 069
Injection pump
Pump designation : PES6A100D41ORS2676-1
Governor
Governor design. : RSV450...1...A1B2186
-1L

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 706

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.45...2.55
: (2.50...2.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 11.60

Del.quantity cm³/ : 12.2...12.4

100H.: (-)

Dispersion cm³/ : 0.35

100H.: (0.6)

2nd speed 1/min: 450
Contr.-rod trav. m: 6.00
Del.quantity cm³/ : 1.8...2.2
100H.: (-)
Dispersion cm³/ : 0.35
100H.: (0.55)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1000
Del.quantity cm³/ : 121.5...123.5
1000H.: (119.5...125.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 46...54

Testing:
1st c-rod trav.mm : 10.60
Speed 1/min : 1045...1055
2nd c-rod trav.mm : 4.00
Speed 1/min : 1085...1115
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1150

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29

Testing:
Speed 1/min : 450
C-rod trav.mm min : 5.40
Speed 1/min : 450
C-rod trav.mm : 5.90...6.10
C-rod trav.mm : 2.00

Speed 1/min : 560...620

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1000

C-rod trav.mm : 11.60

2nd speed 1/min : 700

C-rod trav.mm : 12.60...12.80

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 700

Del.quantity cm3/ : 132.0...135.0

1000H.: (129.5...137.5)

Remarks:

: JOHN DEERE NO. RE

: 16222

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CUM 8.3 A 4
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 073
Injection pump
Pump designation : PES6A100D320/3RS2691
Governor
Governor design. : RSV425...1100A2C2190
R

Customer-spec. information
Customer : CUMMINS
Engine : 6 CT-830

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 0 417 413 047

Inlet press., bar : 1.4

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 1 680 750 014

Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/min: 1100

Contr.-rod trav.mm: 12.10...12.30

Del.quantity cm3/ : 10.9...11.1

100H.: (-)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 425
Contr.-rod trav. m: 5.70...5.90
Del.quantity cm3/ : 1.6...2.0
100H.: (-)
Dispersion cm3/ : 0.35
100H.: (0.55)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 109.0...111.0
1000H.: (107.0...113.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 41...49

Testing:
1st c-rod trav.mm : 11.20
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
3rd c-rod trav.mm : +4.00
Speed 1/min : 1195...1225
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:
Speed 1/min : 425
C-rod trav.mm min : 5.40
Speed 1/min : 425

C-rod trav.mm : 5.70...5.90
C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 470...530

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CUM 8.3 A 3
 Edition : 12.3.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 9 400 230 093
 Injection pump
 Pump designation : PES6A100D320/3RS2691
 Governor
 Governor design. : RSV425...1050A2C2190
 -6R

Customer-spec. information
 Customer : CUMMINS

Engine : 6 CTA-830

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 047

Inlet press., bar : 1.4

Calibrating nozzle-holder
 assembly : 1 688 901 016

Opening
 pressure, bar : 207...210

Test inj. tubing : 9 680 271 029

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values ----- *

START OF DELIVERY

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
 Contr.-rod trav.mm: 10.50
 Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

 Contr.-rod trav.mm: 11.70...11.80

 Del.quantity cm3/ : 8.95...9.15

 100H.: (-)

 Dispersion cm3/ : 0.35

 100H.: (-)

 2nd speed 1/min: 425
 Contr.-rod trav. m: 6.50...6.70
 Del.quantity cm3/ : (1.6...2.0)
 100H.: (-)
 Dispersion cm3/ : 0.35
 100H.: (-)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1050
 Del.quantity cm3/ : 89..5...91.5
 1000H.: (87.5...93.5)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 42...50

Testing:
 1st c-rod trav.mm : 10.70
 Speed 1/min : 1090...1100
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1160...1190
 3rd c-rod trav.mm : 0.30...1.40
 Speed 1/min : 1250

LOWEST RATED SPEED I

Control-lever
 position degrees: 20..28

Testing:
 Speed 1/min : 425
 C-rod trav.mm min : 6.20
 Speed 1/min : 425
 C-rod trav.mm : 6.50...6.70
 C-rod trav.mm : 19.00

Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 500...560

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.70...11.80
2nd speed 1/min : 750
C-rod trav.mm : 13.30...13.50

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 750
Del.quantity cm3/ : 111.5...115.5
1000H.: (109.0...118.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CUM 8.3 A 2
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 230 098
Injection pump
Pump designation : PES6A100D320/3RS2691
Governor
Governor design. : RSV425...1100A2C2190
-9R

Customer-spec. information
Customer : CUMMINS

Engine : 6CTA 8.3

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 047

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 207...210

Test inj. tubing : 9 681 271 029

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 12.80...12.90

Del.quantity cm3/ : 11.4...11.6

100H.: (-)

Dispersion cm3/ : 0.35

100H.: (0.6)

2nd speed 1/min: 425
Contr.-rod trav. m: 5.30...5.50
Del.quantity cm3/ : 1.30...1.70
100H.: (-)
Dispersion cm3/ : 0.35
100H.: (0.55)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 113.5...115.5
1000H.: (111.5...117.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 38...46

Testing:

1st c-rod trav.mm : 11.80
Speed 1/min : 1140...1150
2nd c-rod trav.mm : 4.00
Speed 1/min : 1190...1220
3rd c-rod trav.mm : 4.00
Speed 1/min : 1200...1230
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23

Testing:

Speed 1/min : 425
C-rod trav.mm min : 4.80
Speed 1/min : 425

C-rod trav.mm : 5.30...5.50
C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 470...530

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC 13.4 E2
Edition : 6.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 003
Injection pump
Pump designation : PES6P110A420LS3037
Governor
Governor design. : RSV350...950P2/455DR

Customer-spec. information
Customer : IHC

Engine : DTI-817 B

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 040

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 1 688 901 016

Opening
pressure, bar : 206

Test inj. tubing : 9 681 239 040

Outside diameter
x Wall thickness
x Length mm : 8.00x2.50x750

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

STANT OF DELIVERY

Prestroke mm : 2.00...2.10
 : (1.95...2.15)
Contr.-rod trav.mm: 11.30
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

H11

BASIC SETTING

1st speed 1/mi: 950

Contr.-rod trav.mm: 11.30

Del.quantity cm3/ : 19.7...19.9

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 350
Contr.-rod trav. m: 4.50
Del.quantity cm3/ : 2.0...2.5
100H.: (-)
Dispersion cm3/ : 0.65
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 950
Charge press. hPa : 1100
Del.quantity cm3/ : 197.0...199.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 41...49

Testing:
1st c-rod trav.mm : 10.30
Speed 1/min : 990...1000
2nd c-rod trav.mm : 4.00
Speed 1/min : 1045...1075
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29

Testing:
Speed 1/min : 350
C-rod trav.mm min : 4.90
Speed 1/min : 150
C-rod trav.mm : 20.00...21.00
C-rod trav.mm : 2.00
Speed 1/min : 360...420

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 950
C-rod trav.mm : 11.30
2nd speed 1/min : 800
C-rod trav.mm : 12.35
3rd speed 1/min : 700
C-rod trav.mm : 12.90...13.10
4th speed 1/min : 600
C-rod trav.mm : 12.90...13.10

SWITCH-OVER POINT

Speed 1/min : 500...630

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1100
Speed 1/min : 700
Del.quantity cm3/ : 228.0...234.0
1000H.: (-)
Charge press. hPa : -
Speed 1/min : 800
Del.quantity cm3/ : 145.0...153.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 D1
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 004
Injection pump
Pump designation : PES6P110A72ORS296
Governor
Governor design. : RSV400...1050PO/443
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 13.00
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

H13

1st speed 1/mi: 1050

Contr.-rod trav.mm: 13.00

Del.quantity cm3/ : 18.6...19.0

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.50
Del.quantity cm3/ : 1.8...2.6
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 186...190
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 36...44

Testing:
1st c-rod trav.mm : 12.00
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 6.00
Speed 1/min : 1135...1165
3rd c-rod trav.mm : 0.30...1.30
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 18...26

Testing:
Speed 1/min : 400
C-rod trav.mm min : 6.40
Speed 1/min : 100
C-rod trav.mm : 19.00...21.00
C-rod trav.mm : 6.50
Speed 1/min : 400
C-rod trav.mm : 2.00
Speed 1/min : 520...580

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050

C-rod trav.mm : 13.00
2nd speed 1/min : 630
C-rod trav.mm : 13.75...13.85

SWITCH-OVER POINT
Speed 1/min : 450...750

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 630
Del.quantity cm3/ : 201.0...205.0
1000H.: (-)
Speed 1/min : 550
Del.quantity cm3/ : 113.0...119.0
1000H.: (-)

Remarks:
: JOHN DEERE NO. AR
: 79958

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 A4
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 005
Injection pump
Pump designation : PES6P110A72ORS370
Governor
Governor design. : RSV400...900P7/449DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 890

Contr.-rod trav.mm: 13.10

Del.quantity cm3/ : 18.5...18.7

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 890
Del.quantity cm3/ : 185.0...187.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 49.5...57,5

Testing:
1st c-rod trav.mm : 12.10
Speed 1/min : 915...925
2nd c-rod trav.mm : 4.00
Speed 1/min : 950...980
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1030

LOWEST RATED SPEED I

Control-lever
position degrees: 21.5...29.5

Testing:
Speed 1/min : 400
C-rod trav.mm min : 6.30
Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 2.00
Speed 1/min : 485...545
Speed 1/min : 560
C-rod trav.mm max : 1.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 A5
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 9 400 231 006

Injection pump
Pump designation : PES6P110A72ORS370
Governor
Governor design. : RSV400...1050PO/450
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
: (2.70...2.90)
Contr.-rod trav.mm: 12.20
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.20

Del.quantity cm3/ : 17.2...17.4

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.40
Del.quantity cm3/ : 1.9...2.5
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 172.0...174.0
1000H.: (169.0...177.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 36...44

Testing:

1st c-rod trav.mm : 11.20
Speed 1/min : 1100
2nd c-rod trav.mm : 6.20
Speed 1/min : 1150

LOWEST RATED SPEED I

Control-lever
position degrees: 15...23

Testing:

Speed 1/min : 400
C-rod trav.mm min : 6.30
Speed 1/min : 100
C-rod trav.mm : 19.00...21.00
C-rod trav.mm : 6.40
Speed 1/min : 400
C-rod trav.mm : 2.00
Speed 1/min : 520...580

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 12.20
2nd speed 1/min : 650
C-rod trav.mm : 12.60

SWITCH-OVER POINT

Speed 1/min : 450...500

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 650
Del.quantity cm3/ : 177.4...180.4
1000H.: (174.4...183.4)
Speed 1/min : 550
Del.quantity cm3/ : 84.0...92.0
1000H.: (81.0...95.0)

Remarks:

: JOHN DEERE NO. AR
: 88761

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 A6
Edition : 4.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 007
Injection pump
Pump designation : PES6P110A72ORS370
Governor
Governor design. : RSV400...105OP0/451
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 412 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 11.95...12.05
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.95...12.05

Del.quantity cm3/ : 16.4...16.6

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400

Contr.-rod trav. m: 6.30

Del.quantity cm3/ : 1.7...2.3

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Del.quantity cm3/ : 164.6...166.6

1000H.: (161.6...169.6)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 38...46

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1095...1105

LOWEST RATED SPEED I

Control-lever

position degrees: 15...23

Testing:

Speed 1/min : 400

C-rod trav.mm min : 6.30

Speed 1/min : 100

C-rod trav.mm : 19.00...21.00

C-rod trav.mm : 2.00

Speed 1/min : 520...580

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050

C-rod trav.mm : 11.95...12.05

2nd speed 1/min : 650
C-rod trav.mm : 12.30...12.40

SWITCH-OVER POINT
Speed 1/min : 400...750

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 650
Del.quantity cm3/ : 169.0...172.0
1000H.: (166.0...175.0)
Speed 1/min : 550
Del.quantity cm3/ : 91.0...97.0
1000H.: (-)

Remarks:
: JOHN DEERE NO. AR
: 88763

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column.

Test sheet : DEE 10.1.A8
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 009
Injection pump
Pump designation : PES6P110A72ORS370
Governor
Governor design. : RSV400...1050P0/453
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
: (2.70...2.90)
Contr.-rod trav.mm: 13.10
Cam sequence : 1-6-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 13.10

Del.quantity cm3/ : 18.3...18.5

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400

Contr.-rod trav. m: 6.50

Del.quantity cm3/ : 1.8...2.6

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Del.quantity cm3/ : 183...185

1000H.: (180...188)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 35...43

Testing:

1st c-rod trav.mm : 12.10

Speed 1/min : 1095...1105

2nd c-rod trav.mm : 6.20

Speed 1/min : 1135...1165

3rd c-rod trav.mm : 0.30...1.30

Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Testing:

Speed 1/min : 400

C-rod trav.mm min : 6.40

Speed 1/min : 100

C-rod trav.mm : 19.00...21.00

C-rod trav.mm : 6.50

Speed 1/min : 400

C-rod trav.mm : 2.00

Speed 1/min : 520...580

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050

C-rod trav.mm : 13.10

2nd speed 1/min : 630

C-rod trav.mm : 13.90

SWITCH-OVER POINT

Speed 1/min : 450...750

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 630

Del.quantity cm³/ : 201.0...204.0

1000H.: (198.5...207.5)

Speed 1/min : 550

Del.quantity cm³/ : 113.0...119.0

1000H.: (110.0...122.0)

Remarks:

: JOHN DEERE NO. AR

: 88765

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 A 7
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 010
Injection pump
Pump designation : PES6P110A72ORS361
Governor
Governor design. : RSV400...1050P2/454
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 11.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.50

Del.quantity cm3/ : 15.0...15.2

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.20
Del.quantity cm3/ : 1.2...1.8
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 150.0...152.0
1000H.: (147.0...155.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:
1st c-rod trav.mm : 10.50
Speed 1/min : 1100
2nd c-rod trav.mm : 7.30
Speed 1/min : 1150

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:
Speed 1/min : 400
C-rod trav.mm min : 6.10
Speed 1/min : 100
C-rod trav.mm : 19.00...21.00
C-rod trav.mm : 2.00
Speed 1/min : 570...630

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.50
2nd speed 1/min : 650
C-rod trav.mm : 12.25...12.35

SWITCH-OVER POINT
Speed 1/min : 350...450

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 650
Del.quantity cm3/ : 162.0...166.0
1000H.: (159.0...169.0)
Speed 1/min : 500
Del.quantity cm3/ : 74.0...80.0
1000H.: (71.0...83.0)

Remarks:
: JOHN DEERE NO. AR
: 87989

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 A 8
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 011
Injection pump
Pump designation : PES6P110A72ORS361
Governor
Governor design. : RSV400...900P7/455DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 11.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

H25

BASIC SETTING

1st speed 1/mi: 890

Contr.-rod trav.mm: 11.50

Del.quantity cm3/ : 15.9...16.1

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 890
Del.quantity cm3/ : 159.0...161.0
1000H.: (155.0...165.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 50...58

Testing:

1st c-rod trav.mm : 10.50
Speed 1/min : 915...925
2nd c-rod trav.mm : 4.00
Speed 1/min : 950...980
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1030

LOWEST RATED SPEED I

Control-lever
position degrees: 22...30

Testing:

Speed 1/min : 400
C-rod trav.mm min : 6.10
Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 1.00
Speed 1/min : 560

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 A 9
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 012
Injection pump
Pump designation : PES6P110A72ORS361
Governor
Governor design. : RSV400...1100P2/456
DR

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010
Inlet press., bar : 1.5
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 015
Outside diameter
x Wall thickness
x Length mm : 6.00x1.50.6000
(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
: (2.70...2.90)
Contr.-rod trav.mm: 11.30
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.30

Del.quantity cm³/ : 15.0...15.2

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.60
Del.quantity cm³/ : 0.9...1.2
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travemm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm³/ : 150.0...152.0
1000H.: (147.0...155.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 41...49

Testing:

1st c-rod trav.mm : 10.30
Speed 1/min : 1150
2nd c-rod trav.mm : 6.50
Speed 1/min : 1200

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:

Speed 1/min : 400
C-rod trav.mm min : 5.50
Speed 1/min : 100
C-rod trav.mm : 19.00...21.00
C-rod trav.mm : 2.00
Speed 1/min : 570...630

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100
C-rod trav.mm : 11.30
2nd speed 1/min : 650
C-rod trav.mm : 11.60

SWITCH-OVER POINT

Speed 1/min : 400...750

FUEL DELIVERY CHARACTERISTICS

Speed 1/min : 650
Del.quantity cm³/ : 153.5...156.5
1000H.: (150.5...159.5)
Speed 1/min : 550
Del.quantity cm³/ : 90.0...96.0
1000H.: (87.0...99.0)

Remarks:

: JOHN DEERE NO. AR
: 87785

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 E
 Edition : 2.3.87
 Superceeded :
 Calibrating oil : ISO-4113
 Combination no. : 9 400 231 013
 Injection pump
 Pump designation : PES6P110A72ORS379
 Governor
 Governor design. : RSV400...105OP0/457
 DR

Customer-spec. information
 Customer : JOHN DEERE

Engine : 6619 T

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
 Contr.-rod trav.mm: 10.20
 Cam sequence : 1-5-3-6-2-4

SD ang. spacing °CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

 Contr.-rod trav.mm: 10.20

 Del.quantity cm3/ : 13.5

 100H.: (13.7)

 Dispersion cm3/ : 0.4

 100H.: (-)

 2nd Speed 1/min: 400
 Contr.-rod trav. m: 6.00
 Del.quantity cm3/ : 2.08
 100H.: (2.68)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1050
 Del.quantity cm3/ : 135.0...137.0
 100H.: (132.0...140.0)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 35...43

Testing:
 1st c-rod trav.mm : 9.20
 Speed 1/min : 1100
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1180...1210
 3rd c-rod trav.mm : 0.30...1.70
 Speed 1/min : 1250

LOWEST RATED SPEED I

Control-lever
 position degrees: 16...24

Testing:
 Speed 1/min : 400
 C-rod trav.mm min : 6.00
 Speed 1/min : 100
 C-rod trav.mm : 19.00...21.00
 C-rod trav.mm : 6.00
 Speed 1/min : 400
 C-rod trav.mm : 2.00

Speed 1/min : 520...580

SWITCH-OVER POINT

Speed 1/min : 400...500

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 630

Del. quantity cm³/ : 145.0...149.0

1000H.: (142.0...151.0)

Speed 1/min : 550

Del. quantity cm³/ : 113.6...121.6

1000H.: (110.6...124.6)

Remarks:

: JOHN DEERE NO.
: AR 88759

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 A9
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 039
Injection pump
Pump designation : PES6P110A720RS370
Governor
Governor design. : RSV450...1050P0/465

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
: (2.70...2.90)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

J03

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.40

Del.quantity cm3/ : 17.4...17.6

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 450
Contr.-rod trav. m: 6.00
Del.quantity cm3/ : 1.9...2.5
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 930
Del.quantity cm3/ : 174.0...176.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 43...51

Testing:
1st c-rod trav.mm : 11.40
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1205...1235
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 21...29

Testing:
Speed 1/min : 450
C-rod trav.mm min : 5.40
Speed 1/min : 450
C-rod trav.mm : 5.90...6.10
C-rod trav.mm : 2.00
Speed 1/min : 580...640

Speed 1/min : 850
C-rod trav.mm max : 1.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 12.40
2nd speed 1/min : 650
C-rod trav.mm : 13.65...13.75

SWITCH-OVER POINT

Speed 1/min : 400...750

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 930
Speed 1/min : 650
Del. quantity cm³/ : 198.5...201.5
1000H.: (-)
Speed 1/min : 500
Del. quantity cm³/ : 124.0...132.0
1000H.: (-)

Remarks:

: JOHN DEERE NO. AR
: 90118

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10,1A10
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 043
Injection pump
Pump designation : PES6P110A72ORS370
Governor
Governor design. : RSV400...1050PO/470

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
: (2.70...2.90)
Contr.-rod trav.mm: 12.80
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.80

Del.quantity cm3/ : 17.9...18.1

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 630
Contr.-rod trav. m: 13.80
Del.quantity cm3/ : 20.0...20.3
100H.: (-)
Dispersion cm3/ : 0.6
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 179.0...181.0
1000H.: (175.0...185.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 39...47

Testing:

1st c-rod trav.mm : 11.80
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
4th speed 1/min : 1250
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 16...24

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 400
C-rod trav.mm : 5.70
Speed 1/min : 850
C-rod trav.mm max : 1.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 12.75...12.85
2nd speed 1/min : 600
C-rod trav.mm : 13.75...13.85
3rd speed 1/min : 500
C-rod trav.mm : 13.90...14.00

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 650
Contr.-rod trav.mm: 12.75...12.85

Measurement

Speed 1/min : 500

1st pressure hPa : 280
C-rod trav.mm : 10.30...10.70

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 630
Del.quantity cm3/ : 200.0...203.0
1000H.: (194.0...209.0)
Speed 1/min : 500
Del.quantity cm3/ : 95.0...103.0
1000H.: (89.0...109.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7,6 A 6
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 045
Injection pump
Pump designation : PES6P110A72ORS361
Governor
Governor design. : RSV400...900P7/472

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing °CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 890

Contr.-rod trav.mm: 12.55

Del.quantity cm3/ : 18.5...18.7

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.00
Del.quantity cm3/ : 1.9...2.5
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 890
Del.quantity cm3/ : 185.0...187.0
1000H.: (182.0...190.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 46...54

Testing:
1st c-rod trav.mm : 11.55
Speed 1/min : 915...925
2nd c-rod trav.mm : 4.00
Speed 1/min : 965...995

LOWEST RATED SPEED I

Control-lever
position degrees: 11.5...19.5

Testing:
Speed 1/min : 400
C-rod trav.mm min : 5.5
Speed 1/min : 400

SWITCH-OVER POINT

Speed 1/min : 400...750

Remarks:

: JOHN DEERE NO. 94263

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8 G1
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 056
Injection pump
Pump designation : PES6P110A32ORS392
Governor
Governor design. : RSV600...1100P1/476

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 685 I

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 008

Outside diameter
x Wall thickness
x Length mm : 6.00x2.00x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.50...3.60
: (3.45...3.65)
Contr.-rod trav.mm: 13.20
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 13.20

Del.quantity cm3/ : 17.1...17.3

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 600
Contr.-rod trav. m: 6.20
Del.quantity cm3/ : 1.4...2.2
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1100
Del.quantity cm3/ : 171.0...173.0
1000H.: (168.0...176.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 48...56

Testing:
1st c-rod trav.mm : 12.10
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 24..32

Testing:
Speed 1/min : 600
C-rod trav.mm min : 6.20
Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 1.00
Speed 1/min : 800

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1100

C-rod trav.mm : 13.20...13.30

2nd speed 1/min : 800

C-rod trav.mm : 13.90...14.20

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : IHC
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 057
Injection pump
Pump designation : PES8P100A921/5RS286
Governor
Governor design. : RQV400...1250PA541K

Customer-spec. information
Customer : IHC

Engine : DTV 800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45

Overflow valve : 1 417 413 040

Inlet press., bar : 2.8

Calibrating nozzle-holder
assembly : 1 688 901 017

Opening
pressure, bar : 207

Test inj. tubing : 9 681 230 713

Outside diameter
x Wall thickness
x Length mm : 6.35x4.20x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.75...2.85
 : (2.70...2.90)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-8-4-2-7-3-6-5

SD ang. spacing°CS: 0-45-90-135-180-225-

Tolerance + - ° : 270-315
 : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1250

Contr.-rod trav.mm: 10.30

Del.quantity cm3/ : 11.4...11.6

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400

Contr.-rod trav. m: 4.90

Del.quantity cm3/ : 1.8...2.2

100H.: (-)

Dispersion cm3/ : 0.5

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: 60...66

Speed 1/min: 1320

Cont.-rod travelmm: 15.50...17.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1250

Charge press. hPa : 1060

Del.quantity cm3/ : 114.0...116.0

1000H.: (112.0...118.0)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 55...61

Testing:

1st c-rod trav.mm : 9.30

Speed 1/min : 1300...1330

2nd c-rod trav.mm : 4.00

Speed 1/min : 1385...1415

3rd c-rod trav.mm : 0...1.001

Speed 1/min : 1640

LOWEST RATED SPEED I

Control-lever

position degrees: 10...16

Testing:

Speed 1/min : 400

C-rod trav.mm min : 5.00

Speed 1/min : 200

C-rod trav.mm : 7.10...8.60

C-rod trav.mm : 2.00
Speed 1/min : 565...625

CONSTANT REGULATION

Speed 1/min : 420...480

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1250
C-rod trav.mm : 10.25...10.35
2nd speed 1/min : 900
C-rod trav.mm : 11.25...11.35
3rd speed 1/min : 700
C-rod trav.mm : 10.45...10.55

SWITCH-OVER POINT

Speed 1/min : 240...300

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1060
Speed 1/min : 900
Del.quantity cm³/ : 121.0...127.0
1000H.: (120.0...128.0)
Speed 1/min : 800
Del.quantity cm³/ : 85.5...93.5
1000H.: (85.5...94.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7,6 A10
Edition : 5.3.87
Superceeded :
Calibrating oil : ISO-4113
Combination no. : 9 400 231 066
Injection pump
Pump designation : PES6P110A72ORS361
Governor
Governor design. : RSV400...1050P2/477

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 AR-01

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 11,50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing °CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.50

Del.quantity cm3/ : 15.0...15.2

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.20
Del.quantity cm3/ : 1.2...1.8
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 700
Del.quantity cm3/ : 150.0...152.0
1000H.: (147...155)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:
1st c-rod trav.mm : 10.40
Speed 1/min : 1105...1115
2nd c-rod trav.mm : 4.00
Speed 1/min : 1185...1215
4th speed 1/min : 1280
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 400
C-rod trav.mm : 5,70
Speed 1/min : 800
C-rod trav.mm max : 1.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.50...11.60
2nd speed 1/min : 650
C-rod trav.mm : 12.30...12.40
3rd speed 1/min : 500
C-rod trav.mm : 9.20...9.30

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 540
Contr.-rod trav.mm: 11.45...11.55

Measurement

Speed 1/min : 500
1st pressure hPa : 270
C-rod trav.mm : 9.40...10.00

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 650
Del.quantity cm3/ : 162.0...166.0
1000H.: (159.0...169.0)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 89.0...95.0
1000H.: (87.0...97.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13,8 H
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 077
Injection pump
Pump designation : PES6P120A32ORS454
Governor
Governor design. : RSV600...1100P2482R

TEST BENCH REQUIREMENTS

Overflow valve : 1 417 413 025
Inlet press., bar : 1.5
Calibrating nozzle-holder
assembly : 0 681 443 022
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 413 025
Outside diameter
x Wall thickness
x Length mm : 8.00x2.00x1000
(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.50)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4
SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.5(0.75)

BASIC SETTING

1st speed 1/mi: 1100

Contr.-rod trav.mm: 11.20...11.40

Del.quantity cm3/ : 22.1...22.3

J15

100H.: (-)

Dispersion cm3/ : 0.8

100H.: (-=)

2nd speed 1/min: 600
Contr.-rod trav. m: 5.10...5.30
Del.quantity cm3/ : 2.9...3.7
100H.: (-)
Dispersion cm3/ : 0.7
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70
FULL-LOAD DELIV. AT FULL-LOAD STOP
1st version
Speed 1/min: 1100
Del.quantity cm3/ : 221.0...223.0
1000H.: (221.0...223.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 43...51
Testing:
1st c-rod trav.mm : 10.30
Speed 1/min : 1145...1155
2nd c-rod trav.mm : 4.00
Speed 1/min : 1210...1240
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 25...20
Testing:
Speed 1/min : 600
C-rod trav.mm min : 4.80
Speed 1/min : 600
C-rod trav.mm : 5.10...5.30
C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 655...715

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1000
Del.quantity cm3/ : 217.0...223.0
1000H.: (214.0...227.0)

Remarks:



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 0
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 082
Injection pump
Pump designation : PES6P110A72ORS3038
Governor
Governor design. : RSV400...1050P2/488

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010
Inlet press., bar : 1.5
Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.30

Del.quantity cm3/ : 14.5...14.7

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.90
Del.quantity cm3/ : 1.30...1.90
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 1200
Del.quantity cm3/ : 145.0...147.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 39...47

Testing:

1st c-rod trav.mm : 10.30
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 4.00
Speed 1/min : 1165...1195
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 16.5
Setting point w/out aux. spring
Speed 1/min : 400
Contr.-rod trav.mm: 5.40...5.60

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 400
C-rod trav.mm : 5.90...6.10
C-rod trav.mm : 2.00

Speed 1/min : 600...660
Speed 1/min : 680
C-rod trav.mm max : 1.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 11.25...11.35
2nd speed 1/min : 700
C-rod trav.mm : 12.25...12.55
3rd speed 1/min : 500
C-rod trav.mm : 9.25...9.35

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 610
Contr.-rod trav.mm: 12.05...12.15

Measurement

Speed 1/min : 500

1st pressure hPa : 400
C-rod trav.mm : 10.90...11.30

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1200
Speed 1/min : 700
Del.quantity cm3/ : 165.0...171.0
1000H.: (-)

Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 90.0...94.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8.G
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 109
Injection pump
Pump designation : PES6P110A32ORS392
Governor
Governor design. : RSV750P7/498

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 685 I

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45
Overflow valve : 1 457 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 413 025

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 735

Contr.-rod trav.mm: 12.70

Del.quantity cm3/ : 15.8...16.1

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Contr.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 735
Del.quantity cm3/ : 158.5...160.5
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 44.5...52.5

Testing:

1st c-rod trav.mm : 11.70
Speed 1/min : 760...765
2nd c-rod trav.mm : 4.00
Speed 1/min : 800...830
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 870

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 15.6 E1
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 9 400 231 110

Injection pump
Pump designation : PES8P110A12ORS
Governor
Governor design. : RSV400...1050P2/499

Customer-spec. information
Customer : JOHN DEERE

Engine : 9855 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.35X1.83X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
: (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-6-3-4-2-7-8

SD ang. spacing°CS: 0-45-90-135-180-225-

Tolerance + - ° : 270-315
: 0.50(0.76)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.50

Del.quantity cm3/ : 16.4...16.6

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.80
Del.quantity cm3/ : 2.2...2.8
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 1020
Del.quantity cm3/ : 164.0...166.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 35...43

Testing:
1st c-rod trav.mm : 10.50
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 4.00
Speed 1/min : 1155...1185
3rd c-rod trav.mm : 0.30...0.70
Speed 1/min : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 11...19

Testing:
Speed 1/min : 400
C-rod trav.mm min : 5.40
Speed 1/min : 400
C-rod trav.mm : 5.70...5.90

C-rod trav.mm : 19.00
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 580...640

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 11.50
2nd speed 1/min : 750
C-rod trav.mm : 12.70...13.00
3rd speed 1/min : 550
C-rod trav.mm : 10.40...10.50

Measurement

Speed 1/min : 550
1st pressure hPa : 370
C-rod trav.mm : 11.35...11.75
2nd pressure hPa : 280
C-rod trav.mm : 10.40...10.80

SWITCH-OVER POINT

Speed 1/min : 400..700

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 1020
Speed 1/min : 750
Del.quantity cm3/ : 184.0...187.0
1000H.: (-)
Speed 1/min : 550
Del.quantity cm3/ : 127.0...137.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8 E
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 117
Injection pump
Pump designation : PES6P120A32ORS411
Governor
Governor design. : RQV445...115OPA497-1
K

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 6120 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45
Overflow valve
: 1 417 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 443 022

Opening
pressure, bar : 172...175

Test inj. tubing : 0 680 750 025

Outside diameter
x Wall thickness
x Length mm : 8.00X2.00X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁰ : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 9.55

Del.quantity cm3/ : 19.1...19.3

100H.: (-)

Dispersion cm3/ : 0.5

100H.: (-)

2nd speed 1/min: 445
Contr.-rod trav. m: 4.5
Del.quantity cm3/ : 1.1
100H.: (1.4)
Dispersion cm3/ : 0.8
100H.: (-)

SLEEVE POSITION

Speed 1/min: 1170
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm3/ : 191.0...193.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 52.5...56.5

Testing:

1st c-rod trav.mm : 8.55
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1275...1305
3rd c-rod trav.mm : 0...1.00
Speed 1/min : 1350

LOWEST RATED SPEED I

Control-lever
position degrees: 15...24

Testing:

Speed 1/min : 445
C-rod trav.mm min : 4.40
Speed 1/min : 500
C-rod trav.mm : 2.90...4.70
C-rod trav.mm : 2.00
Speed 1/min : 620...680

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1150

C-rod trav.mm : 9.55

2nd speed 1/min : 800

C-rod trav.mm : 9.95...10.15

SWITCH-OVER POINT

Speed 1/min : 270...340

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800

Del.quantity cm³/ : 190.0...196.0

1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 15.6 D
Edition : 6.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 128
Injection pump
Pump designation : PES8P110A12ORS3111
Governor
Governor design. : RSV400...1050P2/435
-1

Customer-spec. information
Customer : JOHN DEERE

Engine : 8955 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
: (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-6-3-4-2-7-8

SD ang. spacing°CS: 0-45-90-135-180-225-

J25

Tolerance + - ° : 270-315
: 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 10.00

Del.quantity cm3/ : 14.7...14.9

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400

Contr.-rod trav. m: 5.20

Del.quantity cm3/ : 2.2...2.8

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.7

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1050

Charge press. hPa : 670

Del.quantity cm3/ : 147.0...149.0

1000H.: (-)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 39.5...47.5

Testing:

1st c-rod trav.mm : 9.00

Speed 1/min : 1095...1105

2nd c-rod trav.mm : 4.00

Speed 1/min : 1155...1185

3rd c-rod trav.mm : 0.30...1.70

Speed 1/min : 1275

LOWEST RATED SPEED I

Control-lever

position degrees: 17...25

Testing:

Speed 1/min : 400

C-rod trav.mm min : 4.60

Speed 1/min : 100

C-rod trav.mm : 16.00

C-rod trav.mm : 5.20
Speed 1/min : 565...625
Speed 1/min : 800
C-rod trav.mm max : 1.00

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050
C-rod trav.mm : 9.95...10.05
2nd speed 1/min : 750
C-rod trav.mm : 10.85...11.15
3rd speed 1/min : 550
C-rod trav.mm : 9.45...9.55

SWITCH-OVER POINT

Speed 1/min : 400...700

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 670
Speed 1/min : 750
Del. quantity cm³/ : 163.5...166.5
1000H.: (-)
Charge press. hPa : -
Speed 1/min : 550
Del. quantity cm³/ : 130.0...134.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10.1 B2
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 129
Injection pump
Pump designation : PES6P110A72ORS3086-1
Governor
Governor design. : RSV400...1050PO/501

Customer-spec. information
Customer : JOHN DEERE

Engine : 6619 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50(0.75)

J27

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.00

Del.quantity cm3/ : 16.4...16.6

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.80
Del.quantity cm3/ : 1.9...2.5
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (0.4)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...1.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Del.quantity cm3/ : 164.0...166.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 46...54

Testing:

1st c-rod trav.mm : 11.0
Speed 1/min : 1090...1100
2nd c-rod trav.mm : 4.00
Speed 1/min : 1180...1210
3rd c-rod trav.mm : 0.30...1.70
Speed 1/min : 1280

LOWEST RATED SPEED I

Control-lever
position degrees: 24...32

Testing:

Speed 1/min : 400
C-rod trav.mm min : 5.20
Speed 1/min : 100
C-rod trav.mm : 19.00
C-rod trav.mm : 5.80
Speed 1/min : 400
C-rod trav.mm : 2.00

Speed 1/min : 560...620

TORQUE CONTROL

Torque-control curve - 1st version

1st speed 1/min : 1050

C-rod trav.mm : 12.00

2nd speed 1/min : 650

C-rod trav.mm : 12.60...12.90

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 650

Del.quantity cm3/ : 172.0...178.0

1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8.D
Edition : 12.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 150
Injection pump
Pump designation : PES6P130A700RS6013

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 6138

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45
Overflow valve : 1 417 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 443 022

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 060

Outside diameter
x Wall thickness
x Length mm : 8.00x2.00x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 3.40...3.50
 : (3.35...3.55)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing°CS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

K01

1st speed 1/mi: 900

Contr.-rod trav.mm: 11.50

Del.quantity cm3/ : 29.8...30.3

100H.: (-)

Dispersion cm3/ : 0.6

100H.: (-)

2nd speed 1/min: 300

Contr.-rod trav. m: 4.20

Del.quantity cm3/ : 2.0...3.0

100H.: (-)

Dispersion cm3/ : 0.5

100H.: (-)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 900

Del.quantity cm3/ : 297.5...302.5

1000H.: (-)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 300

Del.quantity cm3/ : 20.0...30.0

1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 15.6 E
Edition : 13.3.87
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 9 400 231 151

Injection pump
Pump designation : PES8P110A100RS3098

Customer-spec. information
Customer : JOHN DEERE

Engine : 8955 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 705

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values _____

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.60)

Contr.-rod trav.mm: 10.50

Cam sequence : 1-5-6-3-4--2-7-8

SD ang. spacing°CS: 0-45-90-135-180-225-
 270-315

Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 13.40

Del.quantity cm3/ : 19.7...19.9

100H.: (-)

Dispersion cm3/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.20
Del.quantity cm3/ : 2.3...2.9
100H.: (-)
Dispersion cm3/ : 0.4
100H.: (-)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 900
Del.quantity cm3/ : 197.0...199.0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8.F
Edition : 13.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 161
Injection pump
Pump designation : PES6P120A3209RS464
Governor
Governor design. : RQV500...11SOPA497-2
K

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 6120 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45

Overflow valve : 1 417 413 025

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 443 022

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 060

Outside diameter
x Wall thickness : 8.00x2.00x1000
x Length mm

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-2-6-2-4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + - : 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 10.50

Del.quantity cm³/ : 19.3...19.5

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (-)

2nd speed 1/min: 500
Contr.-rod trav. m: 5.85
Del.quantity cm³/ : 3.3...3.9
100H.: (-)
Dispersion cm³/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: 60...68
Speed 1/min: 1170
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Del.quantity cm³/ : 193.0...195.0
1000H.: (-)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 53...61

Testing:

1st c-rod trav.mm : 9.50
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00
Speed 1/min : 1300...1330
3rd c-rod trav.mm : 0...1.00
Speed 1/min : 1400

LOWEST RATED SPEED I

Control-lever
position degrees: 17...25

Testing:

Speed 1/min : 500
C-rod trav.mm min : 5.95
Speed 1/min : 600
C-rod trav.mm : 4.20...5.60
C-rod trav.mm : 2.00

K05

Speed 1/min : 760...820

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1150
C-rod trav.mm : 10.50
2nd speed 1/min : 900
C-rod trav.mm : 10.90...11.10

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 9000
Del.quantity cm³/ : 203.0...209..0
1000H.: (-)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 15.6 B2
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 162
Injection pump
Pump designation : PES8P110A12ORS3089
Governor
Governor design. : RSV400...1050P2/494
-1

Customer-spec. information
Customer : JOHN DEERE

Engine : 8955 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 456 413 000

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 9 681 230 705

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
: (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-6-3-4-2-7-8

SD ang. spacing°CS: 0-45-90-135-180-225-

K07

Tolerance + - ° : 270-315
: 0.50(0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 11.30

Del.quantity cm³/ : 16.8...17.0

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (-)

2nd speed 1/min: 400
Contr.-rod trav. m: 5.20
Del.quantity cm³/ : 22.0...28.0
100H.: (-)
Dispersion cm³/ : 0.4
100H.: (-)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30..0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 1000
Del.quantity cm³/ : 168.0...170.0
1000H.: (165.0...173.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 37...45

Testing:
1st c-rod trav.mm : 10.30
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
3rd c-rod trav.mm : 4.00
Speed 1/min : 1170...1200
4th speed 1/min : 1300
C-rod trav.mm : 0.30...1.70

LOWEST RATED SPEED I

Control-lever
position degrees: 16...24

Testing:
Speed 1/min : 400
C-rod trav.mm min : 4.60

Speed 1/min : 400
C-rod trav.mm : 5.10...5.30
C-rod trav.mm : 19.00
Speed 1/min : 100
Speed 1/min : 800
C-rod trav.mm max : 1.00
C-rod trav.mm : 2.00
Speed 1/min : 580...640

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 11.30
2nd speed 1/min : 750
C-rod trav.mm : 12.15...12.45

SWITCH-OVER POINT

Speed 1/min : 400...700

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 1000
Speed 1/min : 750
Del.quantity cm3/ : 181.0...185.0
1000H.: (178.0...188.0)
Speed 1/min : 500
Del.quantity cm3/ : 127.0...131.0
1000H.: (124.0...134.0)

Remarks:

: JOHN DEERE NO. RE
: 13794

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 15.6 D
Edition : 13.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 9 400 231 163
Injection pump
Pump designation : PES8P120A300/3RS6014
-1

Customer-spec. information
Customer : JOHN DEERE

Engine : 8955 A

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 1 688 901 017

Opening
pressure, bar : 207..210

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
: (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-6-3-4-2-7-8

SD ang. spacing °CS: 0-45-90-135-180-225-
270-315
Tolerance + - ° : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 900

Contr.-rod trav.mm: 13.30

Del.quantity cm3/ : 26.8...27.1

100H.: (-)

Dispersion cm3/ : 0.5

100H.: (0.75)

2nd speed 1/min: 400
Contr.-rod trav. m: 4.70
Del.quantity cm3/ : 2.2...2.8
100H.: (-)
Dispersion cm3/ : 0.8
100H.: (1.2)

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 900
Del.quantity cm3/ : 266.0...268.0
1000H.: (263.0...271.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ALO 13.8 A2
Edition : 11.3.87
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 9 400 231 177

Injection pump
Pump designation : PES6P120A32ORS410
Governor
Governor design. : RQV300...1000PA498-1
K

Customer-spec. information
Customer : ALLIS CHALMERS

Engine : 6138 T

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 40...45

Overflow valve : 1 417 413 060

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 689 750 060

Outside diameter
x Wall thickness : 8.00x2.00x1000
x Length mm

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 2.80...2.90
: (2.75...2.95)

Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1000

Contr.-rod trav.mm: 12.90

Del.quantity cm3/ : 29.3...29.8

100H.: (-)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 300
Contr.-rod trav. m: 5.50
Del.quantity cm3/ : 2.7...3.3
100H.: (-)
Dispersion cm3/ : 0.65
100H.: (0.95)

SLEEVE POSITION

Control-lever position
Degree: 61...69
Speed 1/min: 1020
Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1000
Del.quantity cm3/ : 293.5...297.5
1000H.: (290.5...300.5)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 58.5...66.5

Testing:

1st c-rod trav.mm : 11.90
Speed 1/min : 1040...1050
2nd c-rod trav.mm : 4.00
Speed 1/min : 1130...1160
3rd c-rod trav.mm : 1130...1160
Speed 1/min : 4.00+
4th speed 1/min : 1180
C-rod trav.mm : 0...1.70

SET IDLE CONTROL-LEVER

Control-lever
position degrees: 260

LOWEST RATED SPEED I

Control-lever
position degrees: 16...24

Testing:

Speed 1/min : 300
C-rod trav.mm min : 5.60
C-rod trav.mm : 6.30...7.70
C-rod trav.mm : 2.00
Speed 1/min : 360...400

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1000
C-rod trav.mm : 12.90
2nd speed 1/min : 800
C-rod trav.mm : 12.90...13.10

SWITCH-OVER POINT

Speed 1/min : 230...260

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800
Del.quantity cm3/ : 269.0...274.0
1000H.: (265.0...277.0)

Remarks:

BGSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 10,1 C3
 Edition : 16.3.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 9 400 231 205
 Injection pump
 Pump designation : PES6P110A7209RS3144
 Governor
 Governor design. : RSV400...900P7A511

Customer-spec. information
 Customer : JOHN DEERE

Engine : 6619A

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42
 Overflow valve : 1 457 413 010
 Inlet press., bar : 1.50
 Calibrating nozzle-holder
 assembly : 9 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
 : (3.40...3.60)
 Contr.-rod trav.mm: 10.50
 Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + -^o : 0.50(0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 800

 Contr.-rod trav.mm: 14.50...14.60

 Del.quantity cm3/ : 23.7...23.9

 100H.: (-)

 Dispersion cm3/ : 0..4

 100H.: (0.75)

 2nd speed 1/min: 400
 Contr.-rod trav. m: 5.80...6.00
 Del.quantity cm3/ : 2.3...2.8
 100H.: (-)
 Dispersion cm3/ : 0.45
 100H.: (0.75)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...1.40

Governor-spring reload
 Notch setting x : -

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 800
 Del.quantity cm3/ : 236.5...238.5
 1000H.: (233.0...241.0)
 Dispersion cm3/ : 4.0
 1000H.: (7.5)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 45...53

Testing:
 1st c-rod trav.mm : 13.50
 Speed 1/min : 915...925
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 925...955
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 960...990
 4th speed 1/min : 1050
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
 position degrees: 18...26

Setting point w/out aux. spring
Speed 1/min : 400
Contr.-rod trav.mm: 5.40

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.00
Speed 1/min : 400
C-rod trav.mm : 5.80...6.00
C-rod trav.mm : 2.00
Speed 1/min : 505...565

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 15,8 K2
 Edition : 09.03.87
 Superceeded : 20.10.86
 Calibrating oil : ISO-4113
 Combination no. : 0 400 649 173
 Injection pump
 Pump designation : PE10A85D610/4LS2243
 EP type number : 0 410 689 993
 Governor
 Governor design. : RQV300...1325AB938DL
 Governer no. : 0 420 214 209

Customer-spec. information
 Customer : KHD

Engine : F10L413

1st version kW : 213.3
 Speed 1/min: 2650

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.00

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness
 x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 1.50...1.60
 : (1.45...1.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1-10- 9- 4- 3- 6-
 5- 8- 7- 2

SD ang. spacing°CS: 0-27-72-99-144-171-
 216-243-288-315
 Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1325

Contr.-rod trav.mm: 10.70...10.80

Del.quantity cm3/ : 7.8...7.9

100H.: (7.6...8.1)

Dispersion cm3/ : 0.3

100H.: (0.4)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.9...7.1

Del.quantity cm3/ : 1.0...1.6

100H.: (0.8...1.8)

Dispersion cm3/ : 0.2

100H.: (0.4)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1340

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1325

Del.quantity cm3/ : 78.0...79.0

1000H.: (76.0...81.0)

Dispersion cm3/ : 3.00

1000H.: (4.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 62...70

Testing:

1st c-rod trav.mm : 9.70

Speed 1/min : 1365...1375

2nd c-rod trav.mm : 4.00

Speed 1/min : 1425...1455

4th speed 1/min : 1500

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 10...18

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.50

Speed 1/min : 300

C-rod trav.mm : 6.90...7.10

C-rod trav.mm : 2.00

Speed 1/min : 755...785

TORQUE CONTROL

Dimension a mm : 0.70

Torque-control curve - 1st version

1st speed 1/min : 1325

C-rod trav.mm : 10.70...10.80

2nd speed 1/min : 600

C-rod trav.mm : 11.30...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 800

Del.quantity cm3/ : 76.0...79.0

1000H.: (73.5...81.5)

Speed 1/min : 1000

Del.quantity cm3/ : 76.5...79.5

1000H.: (74.0...82.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 8,3 N 7
Edition : 09.03.87
Superceeded : 12.09.86
Calibrating oil : ISO-4113
Combination no. : 0 400 676 178
Injection pump
Pump designation : PE6A95D41ORS2575
EP type number : 0 410 696 984
Governor
Governor design. : RSV250...750A7C2201L
Governor no. : 0 420 232 444

Customer-spec. information
Customer : DAF

Engine : DHTD 825

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.00...2.10
 : (1.95...2.15)
Contr.-rod trav.mm: 7.50...10.50
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 8.50...9.50
Difference ° CS : 3.00...4.00

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 11.0...11.2

100H.: (10.8...11.4)

Dispersion cm3/ : 0.3

100H.: (0.6)

2nd speed 1/min: 250.0
Contr.-rod trav. m: 6.0...6.2
Del.quantity cm3/ : 0.7...1.3
100H.: (0.5...1.4)
Dispersion cm3/ : 0.3
100H.: (0.5)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 700
Del.quantity cm3/ : 110.0...112.0
1000H.: (108.0...114.0)
Dispersion cm3/ : 3.50
1000H.: (6.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 40...48

Testing:

1st c-rod trav.mm : 12.20
Speed 1/min : 750...755
2nd c-rod trav.mm : 4.00
Speed 1/min : 780...795
4th speed 1/min : 950
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 19...27

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 6.1

Speed 1/min : 250

C-rod trav.mm : 6.00...6.20

C-rod trav.mm : 2.00

Speed 1/min : 280...340

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 8,3 I 6
Edition : 09.03.87
Superceeded : 12.09.86
Calibrating oil : ISO-4113

Combination no. : 0 400 676 182

Injection pump
Pump designation : PE6A90D41ORS2524
EP type number : 0 410 696 179
Governor
Governor design. : RSV250...750A7C2201L
Governor no. : 0 420 232 444

Customer-spec. information
Customer : DAF

Engine : DH 825

TEST BENCH REQUIREMENTS

Calibrating-oil inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder assembly : 0 681 343 009

Opening pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.30...2.40
 : (2.25...2.45)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o : 0.50 (0.75)

SD mark cyl. no. : 1

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 8.50...9.50
Difference^o CS : 4.50...5.50

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 9.70...9.80

Del.quantity cm3/ : 8.2...8.4

100H.: (8.0...8.6)

Dispersion cm3/ : 0.4

100H.: (0.5)

2nd speed 1/min: 250.0

Contr.-rod trav. m: 6.3...6.5

Del.quantity cm3/ : 1.9...2.5

100H.: (1.7...2.7)

Dispersion cm3/ : 0.2

100H.: (0.4)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...1.00

Governor-spring reload

Notch setting x : 4.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Del.quantity cm3/ : 82.5...84.5

1000H.: (80.5...86.5)

Dispersion cm3/ : 4.00

1000H.: (5.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 40...48

Testing:

1st c-rod trav.mm : 8.70

Speed 1/min : 750...755

2nd c-rod trav.mm : 4.00

Speed 1/min : 780...795

4th speed 1/min : 950
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 24...32
Setting point w/out aux. spring
Speed 1/min : 250
Contr.-rod trav.mm: 6.4
Speed 1/min : 250
C-rod trav.mm : 6.30...6.50
C-rod trav.mm : 2.00
Speed 1/min : 295...355

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

Cold-start testing of RSV governor
according to VDT-I-420/114.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 6,1 N
Edition : 09.03.87
Superceeded : 14.11.86
Calibrating oil : ISO-4113
Combination no. : 0 400 836 034
Injection pump
Pump designation : PES6A85D410/3RS2730
EP type number : 0 410 886 897
Governor
Governor design. : RQV300...1250AB1188-
1L
Governor no. : 0 420 212 205

Customer-spec. information
Customer : KHD

Engine : BF6L913

1st version kW : 110.0
Speed 1/min: 2500

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 000
Inlet press., bar : 1.00
Calibrating nozzle-holder
assembly : 0 681 343 009
Opening
pressure, bar : 172...175
Test inj. tubing : 1 680 750 014
Outside diameter
x Wall thickness
x Length mm : 6.00X2.00X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27
Prestroke mm : 2.20...2.30
: (2.15...2.35)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + -^o : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1250

Contr.-rod trav.mm: 13.20...13.30

Del.quantity cm3/ : 8.4...8.5

100H.: (8.2...8.7)

Dispersion cm3/ : 0.3

100H.: (0.4)

2nd speed 1/min: 300.0
Contr.-rod trav. m: 5.9...6.1
Del.quantity cm3/ : 1.4...2.0
100H.: (1.2...2.2)
Dispersion cm3/ : 0.2
100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300
Sleeve travel mm: 1.20...1.30
2nd speed 1/min: 370
Sleeve travel mm: 2.30...2.60
3rd speed 1/min: 540
Sleeve travel mm: 3.20...3.80
4th speed 1/min: 1290
Sleeve travel mm: 8.50...8.70
5th speed 1/min: 1335
Sleeve travel mm: 9.50...9.70

SLEEVE POSITION

Control-lever position
Degree: -1
Speed 1/min: 1290
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1250
Charge press. hPa : 900
Del.quantity cm3/ : 84.5...85.5
1000H.: (82.5...87.5)
Dispersion cm3/ : 3.00
1000H.: (4.50)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 63...71

Testing:

1st c-rod trav.mm : 12.20
Speed 1/min : 1290...1300
2nd c-rod trav.mm : 4.00
Speed 1/min : 1385...1415
4th speed 1/min : 1550
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 10...18

Testing:

Speed 1/min : 100
C-rod trav.mm min : 7.50
Speed 1/min : 300
C-rod trav.mm : 5.90...6.10

CONSTANT REGULATION

Speed 1/min : 360...470

TORQUE CONTROL

Dimension a mm : 0.80
Torque-control curve - 1st version
1st speed 1/min : 1250
C-rod trav.mm : 13.20...13.30
2nd speed 1/min : 500
C-rod trav.mm : 14.00...14.10
3rd speed 1/min : 740
C-rod trav.mm : 13.70...13.90
4th speed 1/min : 850
C-rod trav.mm : 13.40...13.50

compensator (LDA,ADA,ALDA)

1st version

Setting
Speed 1/min : 500
Pressure hPa : 900
Contr.-rod trav.mm: 13.40...13.50

Measurement

Speed 1/min : 500
1st pressure hPa : -
C-rod trav.mm : 11.80...11.90
2nd pressure hPa : 425
C-rod trav.mm : 12.90...13.00
3rd pressure hPa : 320
C-rod trav.mm : 12.10...12.30

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : 900
Speed 1/min : 850
Del.quantity cm3/ : 81.0...83.0
1000H.: (78.5...85.5)
Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 54.0...56.0
1000H.: (52.0...58.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 4,0 A 4
Edition : 9.3.87
Superceeded : -
Calibrating oil : ISO-4113
Combination no. : 0 400 844 088
Injection pump
Pump designation : PES4A90D410RS2666-1
EP type number : 0 410 894 032
Governor
Governor design. : RQV300...1400AB1065-10L
Governer no. : 0 420 212 203
Customer-spec. information
Customer : DAIMLER-BENZ

Engine : 0M364

1st version kW : 66.0
Speed 1/min: 2800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.00

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.25...2.35
: (2.20...2.40)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 3- 4- 2

SD ang. spacing^oCS: 0-90-180-270
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1400

Contr.-rod trav.mm: 10.90...11.00

Del.quantity cm³/ : 6.3...6.4

100H.: (6.1...6.6)

Dispersion cm³/ : 0.3

100H.: (0.4)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.6...8.8

Del.quantity cm³/ : 0.8...1.2

100H.: (0.6...1.4)

Dispersion cm³/ : 0.2

100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 0.80...1.30

2nd speed 1/min: 500

Sleeve travel mm: 2.30...2.80

3rd speed 1/min: 750

Sleeve travel mm: 4.10...4.30

4th speed 1/min: 1500

Sleeve travel mm: 8.50...8.60

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1500

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1400

Del.quantity cm³/ : 63.5...64.5

1000H.: (61.5...66.5)

Dispersion cm³/ : 3.00

1000H.: (4.50)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 57...65

Testing:

1st c-rod trav.mm : 9.90

Speed 1/min : 1440...1450

2nd c-rod trav.mm : 4.00

Speed 1/min : 1545...1575

4th speed 1/min : 1630

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 20...28

Testing:

Speed 1/min : 100

C-rod trav.mm min : 10.20

Speed 1/min : 300

C-rod trav.mm : 8.60...8.80

CONSTANT REGULATION

Speed 1/min : 540...680

TORQUE CONTROL

Dimension a mm : 1.00

Torque-control curve - 1st version

1st speed 1/min : 1400

C-rod trav.mm : 10.90...11.00

2nd speed 1/min : 500

C-rod trav.mm : 11.90...12.00

3rd speed 1/min : 700

C-rod trav.mm : 11.50...11.80

4th speed 1/min : 900

C-rod trav.mm : 11.30...11.50

SWITCH-OVER POINT

Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 500

Del.quantity cm³/ : 50.0...53.0

1000H.: (47.5...55.5)

Dispersion cm³/ : -

1000H.: (5.50)

Speed 1/min : 900

Del.quantity cm³/ : 52.5...55.5

1000H.: (50.0...58.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 3,0 C
 Edition : 09.03.87
 Superceeded : 20.10.86
 Calibrating oil : ISO-4113
 Combination no. : 0 400 863 011
 Injection pump
 Pump designation : PES3A90D410/3RS2720
 EP type number : 0 410 893 005
 Governor
 Governor design. : RSV325...1150A0C2219
 Governor no. : 0 420 232 466

Customer-spec. information
 Customer : KHD

Engine : F3L913G

TEST BENCH REQUIREMENTS

Calibrating-oil inlet temp. °C : 38...42
 Overflow valve : 1 417 413 000

Inlet press., bar : 1.00

Calibrating nozzle-holder assembly : 0 681 343 009

Opening pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter x Wall thickness x Length mm : 6.00X2.00X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant. per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.50...2.60
 : (2.45...2.65)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 3- 2

SD ang. spacing°CS: 0-120-240
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

 Contr.-rod trav.mm: 8.90...9.00

 Del.quantity cm3/ : 6.0...6.1

 100H.: (5.8...6.3)

 Dispersion cm3/ : 0.3

 100H.: (0.4)

 2nd speed 1/min: 375.0
 Contr.-rod trav. m: 6.8...7.0
 Del.quantity cm3/ : 0.9...1.5
 100H.: (0.7...1.7)
 Dispersion cm3/ : 0.2
 100H.: (0.4)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 5.25

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1050
 Del.quantity cm3/ : 60.0...61.0
 1000H.: (58.0...63.0)
 Dispersion cm3/ : 3.00
 1000H.: (4.50)

HIGHEST RATED SPEED

1st version
 Control-lever position degrees: 56...64

Testing:
 1st c-rod trav.mm : 7.90
 Speed 1/min : 1090...1100
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1115...1145
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 1140...1170
 4th speed 1/min : 1305
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 24...32
Setting point w/out aux. spring
Speed 1/min : 375
Contr.-rod trav.mm: 6.4

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 375
C-rod trav.mm : 6.30...6.50
C-rod trav.mm : 2.00
Speed 1/min : 525...585

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 8.90...9.00
2nd speed 1/min : 500
C-rod trav.mm : 9.60...9.70
4th speed 1/min : 705
C-rod trav.mm : 9.20...9.40

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 600
Del.quantity cm³/ : 50.5...52.5
1000H.: (48.0...55.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : KHD 4,1 D 6
 Edition : 09.03.87
 Superceeded : 1.12.86
 Calibrating oil : ISO-4113
 Combination no. : 0 400 864 067
 Injection pump
 Pump designation : PES4A85D410/3RS2638
 EP type number : 0 410 884 950
 Governor
 Governor design. : RSV325...1400A8C661L
 Govenrer no. : 0 420 232 327

Customer-spec. information
 Customer : KHD

Engine : BF4L913

TEST BENCH REQUIREMENTS

Calibrating-oil inlet temp. °C : 38...42
 Overflow valve : 1 417 413 000

Inlet press., bar : 1.00

Calibrating nozzle-holder assembly : 0 681 343 009

Opening pressure, bar : 172...175

Test inj. tubing : 1 680 750 014

Outside diameter
 x Wall thickness
 x Length mm : 6.00x2.00x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.50...2.60
 : (2.45...2.65)

Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 3- 4- 2

SD ang. spacing°CS: 0-90-180-270
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1250

 Contr.-rod trav.mm: 12.60...12.70

 Del.quantity cm3/ : 8.3...8.4

 100H.: (8.1...8.6)

 Dispersion cm3/ : 0.3

 100H.: (0.5)

 2nd speed 1/min: 325.0
 Contr.-rod trav. m: 8.5...8.7
 Del.quantity cm3/ : 1.0...1.6
 100H.: (0.8...1.8)
 Dispersion cm3/ : 0.2
 100H.: (0.4)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 4.00

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1250
 Del.quantity cm3/ : 83.5...84.5
 1000H.: (81.5...86.5)
 Dispersion cm3/ : 3.00
 1000H.: (5.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 54...62

Testing:
 1st c-rod trav.mm : 11.60
 Speed 1/min : 1290...1300
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 1325...1355
 3rd c-rod trav.mm : 4.00
 Speed 1/min : 1385...1415
 4th speed 1/min : 1540
 C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 15...23
Setting point w/out aux. spring
Speed 1/min : 325
Contr.-rod trav.mm: 8.1

Testing:
Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 325
C-rod trav.mm : 8.00...8.20
C-rod trav.mm : 2.00
Speed 1/min : 620...680

TORQUE CONTROL
Torque-control curve - 1st version
1st speed 1/min : 1250
C-rod trav.mm : 12.60...12.70
2nd speed 1/min : 500
C-rod trav.mm : 13.50...13.60
4th speed 1/min : 1020
C-rod trav.mm : 12.90...13.10

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 500
Del.quantity cm3/ : 77.0...79.0
1000H.: (74.5...81.5)
Speed 1/min : 825
Del.quantity cm3/ : 85.0...87.0
1000H.: (82.5...89.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 6,2 0 2
Edition : 09.03.87
Superceeded : 12.9.86
Calibrating oil : ISO-4113
Combination no. : 0 400 876 332
Injection pump
Pump designation : PES6A95D320RS2693
EP type number : 0 410 896 914
Governor
Governor design. : RSV300...1300AOC2206
R
Governor no. : 0 420 233 204

Customer-spec. information
Customer : DAF

Engine : DNTD 620

1st version kW : 110.0
Speed 1/min: 2600

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.00...2.10
: (1.95...2.15)

Contr.-rod trav.mm: 7.50...10.50
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
Tolerance + -⁰ : 0.50 (0.75)

SD mark cyl. no. : 1

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 8.50...9.50
Difference⁰ CS : 2.50...3.50

BASIC SETTING

1st speed 1/mi: 850

Contr.-rod trav.mm: 10.80...10.90

Del.quantity cm³/ : 6.4...6.6

100H.: (6.2...6.8)

Dispersion cm³/ : 0.3

100H.: (0.6)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 6.3...6.5

Del.quantity cm³/ : 0.7...1.1

100H.: (0.4...1.3)

Dispersion cm³/ : 0.3

100H.: (0.5)

SLEEVE POSITION

Control-lever position

Degree: -3

Speed 1/min: 800

Cont.-rod travelmm: 0.30...0.70

Governor-spring reload

Notch setting x : 5.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 850

Del.quantity cm³/ : 64.0...66.0

1000H.: (62.0...68.0)

Dispersion cm³/ : 3.50

1000H.: (6.00)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 56...64

Testing:

1st c-rod trav.mm : 9.20
Speed 1/min : 1340...1350
2nd c-rod trav.mm : 4.00
Speed 1/min : 1400...1430
3rd c-rod trav.mm : 4.00
Speed 1/min : 1425...1455
4th speed 1/min : 1570
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever
position degrees: 25...33
Setting point w/out aux. spring
Speed 1/min : 300
Contr.-rod trav.mm: 5.9

Testing:

Speed 1/min : 100
C-rod trav.mm min : 19.50
Speed 1/min : 300
C-rod trav.mm : 6.30...6.50
C-rod trav.mm : 2.00
Speed 1/min : 590...650

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1290
C-rod trav.mm : 10.20...10.40
2nd speed 1/min : 500
C-rod trav.mm : 10.80...10.90
4th speed 1/min : 1005
C-rod trav.mm : 10.50...10.70

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 1290
Del.quantity cm3/ : 69.0...71.0
1000H.: (66.5...73.5)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 B 6
Edition : 12.09.86
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 0 401 840 740

Injection pump
Pump designation : PE12P120A32OLS3819-1
1
EP type number : 0 411 820 718
Governor
Governor design. : RQV350...1150PA493-2
Governor no. : 0 421 813 367

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM 424 A

1st version kW : 390.0
Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Inlet press., bar : 1.50

Overflow
quantity min. 1/h: 150...170

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY
Test pressure, bar: 25...27

L04

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
SD ang. spacing°CS: 180-225-240-285-300-
 345
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 1150

Contr.-rod trav.mm: 11.10...11.20

Del.quantity cm3/ : 15.9...16.1
100H.: (15.6...16.4)

Dispersion cm3/ : 0.5
100H.: (0.8)

2nd speed 1/min: 350.0
Contr.-rod trav. m: 4.8...5.0
Del.quantity cm3/ : 1.4...2.0
100H.: (1.1...2.3)
Dispersion cm3/ : 0.8
100H.: (1.2)

SLEEVE POSITION

Speed 1/min: 1150
Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1150
Charge press. hPa : 600
Del.quantity cm3/ : 159.0...161.0
1000H.: (156.0...164.0)
Dispersion cm3/ : 5.00
1000H.: (8.00)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 65...73

Testing:
1st c-rod trav.mm : 10.10
Speed 1/min : 1190...1200
2nd c-rod trav.mm : 4.00

Speed 1/min : 1280...1310
4th speed 1/min : 1375
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.50
Speed 1/min : 350
C-rod trav.mm : 5.10...5.30

CONSTANT REGULATION

Speed 1/min : 400...600

compensator (LDA, ADA, ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 600
Contr.-rod trav.mm: 11.10...11.20

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.00...10.20
2nd pressure hPa : 380
C-rod trav.mm : 10.80...10.90
3rd pressure hPa : 320
C-rod trav.mm : 10.10...10.30

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 600
Speed 1/min : 650
Del.quantity cm3/ : 160.0...166.0
1000H.: (157.0...169.0)

Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 127.0...129.0
1000H.: (124.0...132.0)

Charge press. hPa : -
Speed 1/min : 1150
Del.quantity cm3/ : 118.0...121.0 *
1000H.: (115.0...124.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 21,9 K 4
 Edition : 25.03.87
 Superceeded : -
 Calibrating oil : ISO-4113
 Combination no. : 0 401 840 740
 Injection pump
 Pump designation : PE12P120A32OLS3836-1
 1
 EP type number : 0 411 820 718
 Governor
 Governor design. : RQV350...1150PA493-2
 Govenner no. : 0 421 813 367

Customer-spec. information
 Customer : DAIMLER-BENZ

Engine : OM 424 A

1st version kW : 390.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Inlet press., bar : 1.50

Overflow
 quantity min. 1/h: 150...170

Calibrating nozzle-holder
 assembly : 1 688 901 019

Opening
 pressure, bar : 207...210

Perforated-plate
 diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY
 Test pressure, bar: 25...27

L06

Prestroke mm : 4.00...4.10
 : (3.95...4.15)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 12- 1- 5- 9- 8- 3
 - 4- 11- 10- 2- 6- 7

SD ang. spacing°CS: 0-45-60-105-120-165-
 SD ang. spacing°CS: 180-225-240-285-300-
 345
 Tolerance + - ° : 0.50 (0.75)
 SD mark cyl. no. : 12

BASIC SETTING

1st speed 1/mi: 1150

 Contr.-rod trav.mm: 11.10...11.20

 Del.quantity cm3/ : 15.9...16.1

 100H.: (15.6...16.4)

 Dispersion cm3/ : 0.5

 100H.: (0.8)

2nd speed 1/min: 350.0
 Contr.-rod trav. m: 4.8...5.0
 Del.quantity cm3/ : 1.4...2.0
 100H.: (1.1...2.3)
 Dispersion cm3/ : 0.8
 100H.: (1.2)

SLEEVE POSITION
 Speed 1/min: 1150
 Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 1150
 Charge press. hPa : 600
 Del.quantity cm3/ : 159.0...161.0
 1000H.: (156.0...164.0)
 Dispersion cm3/ : 5.00
 1000H.: (8.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 65...73

Testing:
 1st c-rod trav.mm : 10.10
 Speed 1/min : 1190...1200
 2nd c-rod trav.mm : 4.00

Speed 1/min : 1280...1310
4th speed 1/min : 1375
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 9...17

Testing:

Speed 1/min : 100
C-rod trav.mm min : 6.60
Speed 1/min : 350
C-rod trav.mm : 5.10...5.30

CONSTANT REGULATION

Speed 1/min : 400...600

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : -
Contr.-rod trav.mm: 9.80...10.00

Measurement

Speed 1/min : 500

1st pressure hPa : 320
C-rod trav.mm : 9.90...10.10
2nd pressure hPa : 380
C-rod trav.mm : 10.40...10.60

SWITCH-OVER POINT

Speed 1/min : 270 (290)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 600
Speed 1/min : 650
Del.quantity cm3/ : 160.0...166.0
1000H.: (157.0...169.0)

Charge press. hPa : -
Speed 1/min : 500
Del.quantity cm3/ : 127.0...129.0
1000H.: (124.0...132.0)

Charge press. hPa : -
Speed 1/min : 1150
Del.quantity cm3/ : 118.0...121.0 *
1000H.: (115.0...124.0)

Remarks:

L07

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 11,6 X1
 Edition : 09.03.87
 Superceeded : 12.9.86
 Calibrating oil : ISO-4113

Combination no. : 0 401 846 530

Injection pump
 Pump designation : PE6P110A32ORS407-1
 EP type number : 0 411 816 147
 Governor
 Governor design. : RQ275/1000PA818
 Governer no. : 0 421 801 360

Customer-spec. information
 Customer : DAF

Engine : LT 160

1st version kW : 160.0
 Speed 1/min: 2000

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.80...2.90
 : (2.75...2.95)
 Contr.-rod trav.mm: 9.00...12.00

L08

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing°CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 600

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm3/ : 13.4...13.6

100H.: (13.1...13.8)

Dispersion cm3/ : 0.4

100H.: (0.7)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 7.3...7.5

Del.quantity cm3/ : 1.4...1.9

100H.: (1.1...2.1)

Dispersion cm3/ : 0.4

100H.: (0.7)

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 600

Cont.-rod travelmm: 15.60...16.40

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 600

Del.quantity cm3/ : 134.0...136.0

1000H.: (131.5...138.5)

Dispersion cm3/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

Setting point:

Speed 1/min : 600

Contr.-rod trav.mm: 16.0

Testing:

1st c-rod trav.mm : 10.00

Speed 1/min : 1030...1045

2nd c-rod trav.mm : 4.00

Speed 1/min : 1090...1120

4th speed 1/min : 1300

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Setting point w/out aux. spring

Speed 1/min : 275

Contr.-rod trav.mm: 7.4

Testing:

Speed 1/min : 100
C-rod trav.mm min : 8.60
Speed 1/min : 275
C-rod trav.mm : 7.30...7.50
C-rod trav.mm : 2.00
Speed 1/min : 350...390

TORQUE CONTROL

Dimension a mm : 0.60
Torque-control curve - 1st version
1st speed 1/min : 550
C-rod trav.mm : 12.30...12.40
2nd speed 1/min : 980
C-rod trav.mm : 11.00...11.20
3rd speed 1/min : 745
C-rod trav.mm : 11.90...12.10
4th speed 1/min : 880
C-rod trav.mm : 11.20...11.50

FUEL-DELIVERY CHARACTERISTICS

Speed 1/min : 980
Del.quantity cm3/ : 112.0...116.0
1000H.: (109.0...119.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VAL 7,2 B
 Edition : 09.03.87
 Superceeded : 12.9.86
 Calibrating oil : ISO-4113
 Combination no. : 0 401 846 532
 Injection pump
 Pump designation : PE6P110A32ORS856
 EP type number : 0 411 816 170
 Governor
 Governor design. : RQV250...1150P 825
 Governer no. : 0 421 813 570

Customer-spec. information
 Customer : VALMET

Engine : 612 DSJ

1st version kW : 165.0
 Speed 1/min: 2300

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00X1.50X600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.00...3.10
 : (2.95...3.15)

Contr.-rod trav.mm: 9.00...12.00

Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 700

Contr.-rod trav.mm: 12.00...12.10

Del.quantity cm³/ : 13.9...14.1

100H.: (13.6...14.4)

Dispersion cm³/ : 0.4

100H.: (0.7)

2nd speed 1/min: 325.0

Contr.-rod trav. m: 7.1...7.3

Del.quantity cm³/ : 1.2...1.6

100H.: (0.9...1.8)

Dispersion cm³/ : 0.3

100H.: (0.6)

(B) Setting of injection pump with
 externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 325

Sleeve travel mm: 2.00...2.10

2nd speed 1/min: 380

Sleeve travel mm: 2.30...2.70

3rd speed 1/min: 470

Sleeve travel mm: 2.90...3.40

4th speed 1/min: 1200

Sleeve travel mm: 8.10...8.20

5th speed 1/min: 1310

Sleeve travel mm: 9.10...9.40

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1240

Contr.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 700

Charge press. hPa : 700

Del.quantity cm³/ : 139.0...141.0

1000H.: (136.0...144.0)

Dispersion cm³/ : 4.00

1000H.: (7.50)

HIGHEST RATED SPEED

1st version

Control-lever

position degrees: 42...50

Testing:

1st c-rod trav.mm : 11.00

Speed 1/min : 1190...1200

2nd c-rod trav.mm : 4.00

Speed 1/min : 1290...1320

4th speed 1/min : 1450

C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever

position degrees: 16...24

Testing:

Speed 1/min : 100

C-rod trav.mm min : 8.60

Speed 1/min : 325

C-rod trav.mm : 7.10...7.30

CONSTANT REGULATION

Speed 1/min : 325...500

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500

Pressure hPa : 700

Contr.-rod trav.mm: 12.00...12.10

Measurement

Speed 1/min : 500

1st pressure hPa : -

C-rod trav.mm : 10.40...10.50

2nd pressure hPa : 415

C-rod trav.mm : 11.60...11.70

3rd pressure hPa : 270

C-rod trav.mm : 10.70...10.90

FUEL-DELIVERY CHARACTERISTICS

Charge press. hPa : -

Speed 1/min : 700

Del.quantity cm3/ : 102.5...105.5

1000H.: (100.0...108.0)

Remarks:

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

Because of flattening, set the spring preload on new delivery-valve holders to 2.9...3.1 mm.

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DEE 7.6 G 4
Edition : 5.3.87
Superceeded : -
Calibrating oil : ISO-4113

Combination no. : 9 400 231 196

Injection pump
Pump designation : PES6P110A72ORS3038
Governor
Governor design. : RSV400...1050P2A488
-3

Customer-spec. information
Customer : JOHN DEERE

Engine : 6466 AF

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 457 413 010

Inlet press., bar : 1.5

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Prestroke mm : 3.45...3.55
: (3.40...3.60)
Contr.-rod trav.mm: 10.50
Cam sequence : 1-5-3-6-2-4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1050

Contr.-rod trav.mm: 12.40...12.50

Del.quantity cm³/ : 14.6...14.9

100H.: (-)

Dispersion cm³/ : 0.4

100H.: (0.75)

2nd speed 1/min: 400
Contr.-rod trav. m: 6.60...6.80
Del.quantity cm³/ : 1.35...1.85
100H.: (-)
Dispersion cm³/ : 0.45
100H.: (0.75)

SLEEVE POSITION

Control-lever position
Degree: -3
Speed 1/min: 800
Cont.-rod travelmm: 0.30...0.70

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
Speed 1/min: 1050
Charge press. hPa : 1200
Del.quantity cm³/ : 146.5...149.5
1000H.: (144.0...152.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 41...49

Testing:
1st c-rod trav.mm : 11.40
Speed 1/min : 1095...1105
2nd c-rod trav.mm : 4.00
Speed 1/min : 1175...1205
3rd c-rod trav.mm : 4.00
Speed 1/min : 1185...1215
4th speed 1/min : 0.30...1.40
C-rod trav.mm : 1300

LOWEST RATED SPEED I

Control-lever
position degrees: 19...27

Testing:
Speed 1/min : 400
C-rod trav.mm min : 6.10

Speed 1/min : 400
C-rod trav.mm : 6.60...6.80
C-rod trav.mm : 19.000
Speed 1/min : 100
C-rod trav.mm : 2.00
Speed 1/min : 660...720

TORQUE CONTROL

Torque-control curve - 1st version
1st speed 1/min : 1050
C-rod trav.mm : 12.40...12.50
2nd speed 1/min : 700
C-rod trav.mm : 13.60...13.80

FUEL-DELIVERY CHARACTERISTICS

1st version
Charge press. hPa : 1200
Speed 1/min : 700
Del.quantity cm3/ : 179.0...183.0
1000H.: (176.0...186.0)
Speed 1/min : 500
Del.quantity cm3/ : -
1000H.: (88.0...98.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : DAF 6,2 M 3
 Edition : 09.03.87
 Superceeded : 12.09.86
 Calibrating oil : ISO-4113

Combination no. : 0 400 676 181

Injection pump
 Pump designation : PE6A85D32ORS2546
 EP type number : 0 410 686 943
 Governor
 Governor design. : RSV250...750A7C2202R
 Governor no. : 0 420 233 202

Customer-spec. information
 Customer : DAF

Engine : DF615

TEST BENCH REQUIREMENTS

Calibrating-oil
 inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.50

Calibrating nozzle-holder
 assembly : 0 681 343 009

Opening
 pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
 x Wall thickness
 x Length mm : 6.00x1.50x600

(A) Injection pump setting values
 Insp. values in parentheses
 Set constant delivery quant.
 per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.15...2.25
 : (2.10...2.30)
 Contr.-rod trav.mm: 9.00...12.00
 Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing⁰CS: 0-60-120-180-240-300
 Tolerance + - : 0.50 (0.75)

SD mark cyl. no. : 1

START OF DELIVERY DIFFERENCE

betw.c-rod trav.mm: 8.50...9.50
 Difference⁰ CS : 3.00...4.00

BASIC SETTING

1st speed 1/mi: 700

 Contr.-rod trav.mm: 12.10...12.20

 Del.quantity cm3/ : 6.6...6.8

 100H.: (6.4...7.0)

 Dispersion cm3/ : 0.3

 100H.: (0.5)

2nd speed 1/min: 250.0
 Contr.-rod trav. m: 8.4...8.6
 Del.quantity cm3/ : 0.9...1.5
 100H.: (0.7...1.7)
 Dispersion cm3/ : 0.2
 100H.: (0.4)

SLEEVE POSITION

Control-lever position
 Degree: -3
 Speed 1/min: 800
 Cont.-rod travelmm: 0.30...0.70

Governor-spring reload
 Notch setting x : 3.50

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version
 Speed 1/min: 700
 Del.quantity cm3/ : 66.0...68.0
 1000H.: (64.0...70.0)
 Dispersion cm3/ : 3.00
 1000H.: (5.00)

HIGHEST RATED SPEED

1st version
 Control-lever
 position degrees: 40...48

Testing:
 1st c-rod trav.mm : 11.10
 Speed 1/min : 750...755
 2nd c-rod trav.mm : 4.00
 Speed 1/min : 780...795

4th speed 1/min : 950
C-rod trav.mm : 0.30...1.40

LOWEST RATED SPEED I

Control-lever

position degrees: 23...31

Setting point w/out aux. spring

Speed 1/min : 250

Contr.-rod trav.mm: 8.5

Speed 1/min : 250

C-rod trav.mm : 8.40...8.60

C-rod trav.mm : 2.00

Speed 1/min : 295...355

SET IDLE AUXILIARY SPRING

Contr.-rod trav.mm: 2.00

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : MB 4,0 A 3
Edition : 30.03.87
Superceeded : 12.09.86
Calibrating oil : ISO-4113

Combination no. : 0 400 844 087

Injection pump
Pump designation : PES4A90D410RS2666-1
EP type number : 0 410 894 032
Governor
Governor design. : RQV300...1400AB1065-
SL
Governor no. : 0 420 212 169

Customer-spec. information
Customer : DAIMLER-BENZ

Engine : OM364

1st version kW : 66.0
Speed 1/min: 2800

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42

Overflow valve : 1 417 413 000

Inlet press., bar : 1.00

Calibrating nozzle-holder
assembly : 0 681 343 009

Opening
pressure, bar : 172...175

Test inj. tubing : 1 680 750 015

Outside diameter
x Wall thickness
x Length mm : 6.00x1.50x600

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 2.25...2.35
: (2.20...2.40)

Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 3- 4- 2

SD ang. spacing⁰CS: 0-90-180-270
Tolerance + - : 0.50 (0.75)

BASIC SETTING

1st speed 1/mi: 1400

Contr.-rod trav.mm: 10.90...11.00

Del.quantity cm3/ : 6.3...6.4

100H.: (6.1...6.6)

Dispersion cm3/ : 0.3

100H.: (0.5)

2nd speed 1/min: 300.0

Contr.-rod trav. m: 8.6...8.8

Del.quantity cm3/ : 0.8...1.2

100H.: (0.6...1.4)

Dispersion cm3/ : 0.2

100H.: (0.4)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 300

Sleeve travel mm: 0.80...1.30

2nd speed 1/min: 500

Sleeve travel mm: 2.30...2.80

3rd speed 1/min: 750

Sleeve travel mm: 4.10...4.30

4th speed 1/min: 1500

Sleeve travel mm: 8.50...8.60

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1500

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1400

Del.quantity cm3/ : 63.0...64.0

1000H.: (61.0...66.0)

Dispersion cm3/ : 3.00

1000H.: (5.00)

HIGHEST RATED SPEED

1st version

Control-lever
position degrees: 59...67

Testing:
1st c-rod trav.mm : 9.90
Speed 1/min : 1450...1460
2nd c-rod trav.mm : 4.00
Speed 1/min : 1560...1590
4th speed 1/min : 1630
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I
Control-lever
position degrees: 20...28

Testing:
Speed 1/min : 100
C-rod trav.mm min : 10.20
Speed 1/min : 300
C-rod trav.mm : 8.60...8.80

CONSTANT REGULATION
Speed 1/min : 540...680

TORQUE CONTROL
Dimension a mm : 1.00
Torque-control curve - 1st version
1st speed 1/min : 1400
C-rod trav.mm : 10.90...11.00
2nd speed 1/min : 630
C-rod trav.mm : 12.20...12.30
3rd speed 1/min : 900
C-rod trav.mm : 11.60...11.80

SWITCH-OVER POINT
Speed 1/min : 220 (240)

FUEL-DELIVERY CHARACTERISTICS
Speed 1/min : 630
Del.quantity cm3/ : 55.5...58.5
1000H.: (53.0...61.0)
Speed 1/min : 900
Del.quantity cm3/ : 54.5...57.5
1000H.: (52.0...60.0)

Remarks:

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : RVI 8,8 L
Edition : 12.09.86
Superceeded : 12.85
Calibrating oil : ISO-4113
Combination no. : 0 401 846 499
Injection pump
Pump designation : PE6P120A32ORS474
EP type number : 0 411 826 134
Governor
Governor design. : RQV275...1200PA425-3
Governor no. : 0 421 813 441

Customer-spec. information
Customer : RVI

Engine : MIDS062030

1st version kW : 168.0
Speed 1/min: 2400

TEST BENCH REQUIREMENTS

Calibrating-oil
inlet temp. °C : 38...42
Overflow valve : 1 417 413 025

Inlet press., bar : 1.50

Calibrating nozzle-holder
assembly : 1 688 901 019

Opening
pressure, bar : 207...210

Perforated-plate
diameter mm : 0,8

Test inj. tubing : 1 680 750 067

Outside diameter
x Wall thickness
x Length mm : 6.00X1.50X1000

(A) Injection pump setting values
Insp. values in parentheses
Set constant delivery quant.
per values -----

START OF DELIVERY

Test pressure, bar: 25...27

Prestroke mm : 3.50...3.60
 : (3.45...3.65)
Contr.-rod trav.mm: 9.00...12.00
Cam sequence : 1- 5- 3- 6- 2- 4

SD ang. spacing^oCS: 0-60-120-180-240-300
Tolerance + - ° : 0.50 (0.75)

SD mark cyl. no. : 1

BASIC SETTING

1st speed 1/mi: 1200

Contr.-rod trav.mm: 11.90...12.00

Del.quantity cm3/ : 15.1...15.3

100H.: (14.8...15.6)

Dispersion cm3/ : 0.5

100H.: (0.9)

2nd speed 1/min: 275.0

Contr.-rod trav. m: 5.70...5.90

Del.quantity cm3/ : 0.8...1.4

100H.: (0.5...1.7)

Dispersion cm3/ : 0.8

100H.: (1.2)

(B) Setting of injection pump with
externally-mounted governor

SLEEVE TRAVELS

1st speed 1/min: 275

Sleeve travel mm: 1.20...1.40

2nd speed 1/min: 400

Sleeve travel mm: 2.90...3.40

3rd speed 1/min: 900

Sleeve travel mm: 5.80...6.00

4th speed 1/min: 1200

Sleeve travel mm: 7.80...8.00

SLEEVE POSITION

Control-lever position

Degree: -1

Speed 1/min: 1270

Cont.-rod travelmm: 15.20...17.80

FULL-LOAD DELIV. AT FULL-LOAD STOP

1st version

Speed 1/min: 1200

Charge press. hPa : 700

Del.quantity cm3/ : 151.0...153.0

1000H.: (148.0...156.0)

Dispersion cm3/ : 5.00
1000H.: (9.00)

Del.quantity cm3/ : 94.0...96.0
1000H.: (91.0...99.0)

HIGHEST RATED SPEED

1st version
Control-lever
position degrees: 61...69

Remarks:

Testing:

1st c-rod trav.mm : 10.90
Speed 1/min : 1265...1275
2nd c-rod trav.mm : 4.00
Speed 1/min : 1380...1410
4th speed 1/min : 1500
C-rod trav.mm : 0.00...1.00

LOWEST RATED SPEED I

Control-lever
position degrees: 8...16

Testing:

Speed 1/min : 200
C-rod trav.mm min : 8.40
Speed 1/min : 275
C-rod trav.mm : 5.70...5.90

CONSTANT REGULATION

Speed 1/min : 275...360

compensator (LDA,ADA,ALDA)

1st version

Setting

Speed 1/min : 500
Pressure hPa : 700
Contr.-rod trav.mm: 11.90...12.00

Measurement

Speed 1/min : 500

1st pressure hPa : -
C-rod trav.mm : 10.70...10.80
2nd pressure hPa : 195
C-rod trav.mm : 11.60...11.70
3rd pressure hPa : 175
C-rod trav.mm : 11.10...11.30

SWITCH-OVER POINT

Speed 1/min : 195 (215)

FUEL-DELIVERY CHARACTERISTICS

1st version

Charge press. hPa : 700
Speed 1/min : 750
Del.quantity cm3/ : 139.0...145.0
1000H.: (136.0...148.0)

Charge press. hPa : -
Speed 1/min : 500

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VMA 2,2 A1
Edition : 3.12.86
replaces : 5.84
Calibrating oil : ISO 4113
Injection pump : VE 4/10F2100 L75-1:
Type number : 0 460 404 034

Customer-specific information
Customer : VM MOTORI

Engine : HR 492 HT

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1600
Charge press. hPa: 800
Setting value mm: 5,3...5,7

Supply-pump pressure:

Speed 1/min: 1600
Charge press. hPa: 800
Setting value bar: 5,8...6,4

Full-load del. with charge press.:

Speed 1/min: 1600
Charge press. hPa: 800

Del. quantity cm³/
1000H.: 47,5...48,5
Dispersion cm³/
1000H : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 35,0...36,0

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: -
Del. quantity cm³/
1000H.: 15,0...19,0
Dispersion cm³/
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2300
Charge press. hPa: 800
Del. quantity cm³/
1000H: 24,5...30,5

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 50,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
Charge press. hPa: 800
TD travel mm: 1,7...2,5
mm: (1,4...2,8)
2nd speed 1/min: 1600
Charge press. hPa: 800
TD travel mm: -
mm: (4,8...6,2)
3rd speed 1/min: 2100
Charge press. hPa: 800
TD travel mm: 7,8...8,6
mm: (7,5...8,9)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Charge press. hPa: 800
Supply-pump
pressure bar: 1,5...2,1
2nd speed 1/min: 2100
Charge press. hPa: 800

Supply-pump pressure bar: 7,5...8,1

Overflow quantity at overflow valve:

1st speed 1/min: 400
Overflow quantity cm³/10s: 55...138
(40...153)
2nd speed 1/min: 2100
Overflow quantity cm³/10s: 55...138
(40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 700
Charge-air pressure-setting point hPa: 300
LDA stroke mm: 4,2
Del. quantity cm³/1000H.: 43,5...45,5
(42,3...46,7)

2nd speed 1/min: 2450
Charge press. hPa: 800
Del. quantity cm³/1000H.: 0...7,0

3rd speed 1/min: 2300
Charge press. hPa: 800
Del. quantity cm³/1000H.: (23,5...31,5)

4th speed 1/min: 2100
Charge press. hPa: 800
Del. quantity cm³/1000H.: 41,5...44,5
(40,8...45,2)

5th speed 1/min: 1600
Charge press. hPa: -
Del. quantity cm³/1000H.: 31,5...34,5
(30,8...35,2)

6th speed 1/min: 1600
Charge press. hPa: 800
Del. quantity cm³/1000H.: (45,8...50,2)

7th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/1000H.: (33,3...37,7)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 2100
Del. quantity cm³/1000H.: -

Idle delivery:

1st speed 1/min: 400
Del. quantity cm³/1000H.: -
(13,0...1,0)
2nd speed 1/min: 450
Del. quantity cm³/1000H.: -
0...2,0
3rd speed 1/min: 650

Del. quantity cm³/1000H.: -
0...2,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³/ind.: -
1000H.: 45,0

2nd speed 1/min: 500
Del. quantity cm³/ax.: -
1000H.: 37,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation mm :
K : 3,2...3,4
KF : 5,7...5,9
MS : 0,7...0,9
SVS max. : 3,8
XK : 20,2...22,2
XL : 10,3...13,6

Remarks:
Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : FIA 1,7 H1
Edition : 18.12.86
replaces : 3.85
Calibrating oil : ISO 4113

Injection pump : VE 4/10F2050 R192:
Type number : G 460 404 040

Customer-specific information
Customer : FIAT

Engine : 8144.91.200

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Start of delivery
Prestroke mm : 0,2
(from BDC) : $\pm 0,02$ (0,04)

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value mm: 5,3...5,7

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value bar: 6,1...6,7

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 57,5...58,5

Dispersion cm³/
1000H.: (3,0
(3,5)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 42,5...43,5

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: -
Del. quantity cm³/
1000H.: 16,0...20,0

Dispersion cm³/
1000H.: (3,5

Full-load speed regulation:

Speed 1/min: 2250
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 34,5...40,5

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 54,0

Load-dependent start of delivery:

Speed 1/min: 1500
Charge press. hPa: -

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 600
Charge press. hPa: 800
TD travel mm: 1,1...1,9
mm: (0,8...2,2)

2nd speed 1/min: 1500
Charge press. hPa: 800
TD travel mm: -
mm: (4,8...6,2)

3rd speed 1/min: 2050
Charge press. hPa: 800
TD travel mm: 7,6...8,4
mm: (7,3...8,7)

Supply-pump pressure characteristic:

1st speed 1/min: 400
 Charge press. hPa: 800
 Supply-pump pressure bar: 3,4...4,0
 2nd speed 1/min: 600
 Charge press. hPa: 800
 Supply-pump pressure bar: 4,0...4,6
 3rd speed 1/min: 2050
 Charge press. hPa: 800
 Supply-pump pressure bar: 7,4...8,0

Overflow quantity at overflow valve:

1st speed 1/min: 600
 Charge press. hPa: 800
 Overflow quantity cm3/10s: (55...138)
 quantity cm3/10s: (40...153)
 2nd speed 1/min: 2050
 Charge press. hPa: 800
 Overflow quantity cm3/10s: (55...138)
 quantity cm3/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
 Charge-air pressure-setting point hPa: 300
 LDA stroke mm: 4,5
 Del. quantity cm3/1000H.: (52,5...53,5)
 1000H.: (50,0...56,0)
 2nd speed 1/min: 2400
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (0...3,0)
 3rd speed 1/min: 2350
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (1,5...8,5)
 1000H.: (1,0...9,0)
 4th speed 1/min: 2250
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (33,5...41,5)
 5th speed 1/min: 2050
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (48,5...51,5)
 1000H.: (47,8...52,2)
 6th speed 1/min: 1500
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (55,8...60,2)
 7th speed 1/min: 600
 Charge press. hPa: 800
 Del. quantity cm3/1000H.: (58,0...61,0)
 1000H.: (56,5...62,5)
 8th speed 1/min: 600
 Charge press. hPa: -
 Del. quantity cm3/1000H.: (40,8...45,2)

Zero delivery (stop):

Mech. shutoff:
 Speed 1/min: 2050
 Del. quantity cm3/1000H.: -

Idle delivery:

1st speed 1/min: 400
 Del. quantity cm3/1000H.: (13,5...22,5)
 2nd speed 1/min: 500
 Del. quantity cm3/1000H.: (4,0...10,0)
 1000H.: (2,5...11,5)
 3rd speed 1/min: 600
 Del. quantity cm3/1000H.: (0...5,0)
 4th speed 1/min: 1000
 Del. quantity cm3/1000H.: (0...3,0)

Automatic starting fuel delivery:

1st speed 1/min: 450
 Del. quantity cm3/1000H.: (47,0)
 ind. 1000H.: 47,0
 2nd speed 1/min: 500
 Del. quantity cm3/1000H.: (44,0)
 ax. 1000H.: 44,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
 Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
 K mm : -
 KF mm : 5,7...6,0
 MS mm : 1,2...1,4
 SVS max. mm : 2,2
 XK mm : 17,0...19,0
 XL mm : 11,4...14,8

Remarks:
 Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VMA 2,2 D
Edition : 3.12.86
replaces : 1.85
Calibrating oil : ISO 4113
Injection pump : VE4/10F2100 L168-1:
Type number : 0 460 404 042

Customer-specific information
Customer : MOTORI VM

Engine : HR 492 HJ

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value mm: 4,6...5,0

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value bar: 4,8...5,4

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 800

Del. quantity cm³/
1000H.: 58,7...59,7
Dispersion cm³/
1000H.: (2,5
3,0)

Full-load del. w/out charge press.:

Speed 1/min: 600
Del. quantity cm³/
1000H.: 38,8...39,8

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: -
Del. quantity cm³/
1000H.: 13,0...17,0
Dispersion cm³/
1000H.: (2,0
3,0)

Full-load speed regulation:

Speed 1/min: 2300
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 27,0...33,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 50,0

Load-dependent start of delivery:

Speed 1/min: 1500
Charge press. hPa: -

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
Charge press. hPa: 800
TD travel mm: 1,6...2,4
mm: (1,3...2,7)
2nd speed 1/min: 1500
Charge press. hPa: 800
TD travel mm: -
mm: (4,1...5,5)
3rd speed 1/min: 2100
Charge press. hPa: 800
TD travel mm: 7,6...8,4
mm: (7,3...8,7)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Charge press. hPa: 800

Supply-pump pressure bar: 1,1...1,7
2nd speed 1/min: 2100
Charge press. hPa: 800
Supply-pump pressure bar: 6,9...7,5

Overflow quantity at overflow valve:

1st speed 1/min: 2100
Charge press. hPa: -
Overflow quantity cm³/10s: (55...138)
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 700
Charge-air pressure-setting point hPa: 400
LDA stroke mm: 6,1
Del. quantity cm³: 50,3...51,3
1000H.: (48,1...53,5)

2nd speed 1/min: 2450
Charge press. hPa: 800
Del. quantity cm³: 1,5...8,5
1000H.: (0,5...9,5)

3rd speed 1/min: 2300
Charge press. hPa: 800
Del. quantity cm³: -
1000H.: (25,5...34,5)

4th speed 1/min: 2100
Charge press. hPa: 800
Del. quantity cm³: 49,5...52,5
1000H.: (46,5...55,5)

5th speed 1/min: 1500
Charge press. hPa: 800
Del. quantity cm³: -
1000H.: (56,5...61,9)

6th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³: -
1000H.: (36,6...42,0)

7th speed 1/min: 600
Charge press. hPa: 800
Del. quantity cm³: 61,2...64,2
1000H.: (59,3...66,1)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 2050
Del. quantity cm³: -
1000H.

Idle delivery:

1st speed 1/min: 400
Del. quantity cm³: -
1000H.: (10,5...19,5)
2nd speed 1/min: 450

Del. quantity cm³: 2,5...8,5
1000H.: (1,0...10,0)
3rd speed 1/min: 600
Del. quantity cm³: -
1000H.: 0...2,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³: 43,0...63,0
ind. 1000H.: -

2nd speed 1/min: 500
Del. quantity cm³: -
ax. 1000H.: 55,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 5,2...5,5
MS mm : 0,7...0,9
XK mm : 17,0...19,0
XL mm : 8,6...12,0

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VMA 2,2 A2
Edition : 29.9.86
replaces : -
Calibrating oil : ISO-4113

Injection pump : VE 4/10F2100 L75-2
Type number : 0 460 404 044

Customer-specific information
Customer : VM MOTORI

Engine : HR 492 HT

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1600
Charge press. hPa: 1000
Setting value mm: 5,3...5,7

Supply-pump pressure:

Speed 1/min: 1600
Charge press. hPa: 1000
Setting value bar: 5,8...6,4

Full-load del. with charge press.:

Speed 1/min: 700
Charge press. hPa: 1000

Del. quantity cm³/
1000H.: 48,5...50,5

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 40,0...41,0

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: -
Del. quantity cm³/
1000H.: 15,0...19,0
Dispersion cm³/: 3,0
1000H.: -

Full-load speed regulation:

Speed 1/min: 2400
Charge press. hPa: 1000
Del. quantity cm³/
1000H.: 17,0...23,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 50,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
Charge press. hPa: 1000
TD travel mm: 1,7...2,5
mm: (1,4...2,8)
2nd speed 1/min: 1600
Charge press. hPa: 1000
TD travel mm: -
mm: (4,8...6,2)
3rd speed 1/min: 2100
Charge press. hPa: 1000
TD travel mm: 7,8...8,6
mm: (7,5...8,9)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Charge press. hPa: 1000
Supply-pump pressure bar: 1,5...2,1
2nd speed 1/min: 2100
Charge press. hPa: 1000
Supply-pump pressure bar: 7,5...8,1

Overflow quantity at overflow valve:

1st speed 1/min: 400
Charge press. hPa: -
Overflow quantity cm³/10s: (45...153)
2nd speed 1/min: 2100
Charge press. hPa: -
Overflow quantity cm³/10s: (45...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1600
Charge-air pressure-setting point hPa: 500
LDA stroke mm: 4,2
Del. quantity cm³/
1000H.: (50,8...56,2)
2nd speed 1/min: 2500
Charge press. hPa: 1000
Del. quantity cm³/
1000H.: 0...5,0
3rd speed 1/min: 2400
Charge press. hPa: 1000
Del. quantity cm³/
1000H.: (15,5...24,5)
4th speed 1/min: 2100
Charge press. hPa: 1000
Del. quantity cm³/
1000H.: (44,0...49,4)
5th speed 1/min: 1600
Charge press. hPa: 500
Del. quantity cm³/
1000H.: (50,8...56,2)
6th speed 1/min: 700
Charge press. hPa: 1000
Del. quantity cm³/
1000H.: (46,8...52,2)
7th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/
1000H.: (40,0...41,0)
1000H.: (37,8...43,2)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
Del. quantity cm³/
1000H.:

Electr. shutoff:

Speed 1/min: 2100
ELAB volt: -
Del. quantity cm³/
1000H.:

Idle delivery:

1st speed 1/min: 400

Del. quantity cm³/: -
1000H.: (12,5..21,5)
2nd speed 1/min: 450
Del. quantity cm³/: -
1000H.: 0...2,0
3rd speed 1/min: 650
Del. quantity cm³/: -
1000H.: 0...2,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³/: -
ind. 1000H.: 45,0

2nd speed 1/min: 500
Del. quantity cm³/: -
ax. 1000H.: 45,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,3
KF mm : 5,7-5,9
MS mm : 0,7-0,9
SVS max. mm : 3,8
XK mm : 20,2-22,2
XL mm : 10,3-13,6

Remarks:
Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 3,1 D
Edition : 3.12.86
replaces : -
Calibrating oil : ISO 4113

Injection pump : VE 4/10F1750 L250
Type number : 0 460 404 047

Customer-specific information
Customer : VOLVO PENTA

Engine : MD 31

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 022

Opening
pressure bar : 130...133

Test inj. tubing : 1 680 750 073

Outside diameter : 6
x Wall thickness : 2
x Length mm : 450

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1000
Setting value mm: 2,8...3,2

Supply-pump pressure:

Speed 1/min: 1000
Setting value bar: 5,8...6,4

Full-load del. w/out charge press.:

Speed 1/min : 1000
Del.quantity cm3/
1000H.: 53,0...54,0
Dispersion cm3/: 3,0
1000H.: -

Low-idle speed regulation:

Speed 1/min: 420
Del.quantity cm3/
1000H.: 16,0...20,0
Dispersion cm3/: 3,0
1000H.: -

Full-load speed regulation:

Speed 1/min: 1900
Del.quantity cm3/
1000H.: 31,0...37,0

Start:

Speed 1/min: 100
Del.quantity mind.
cm3/1000H.: 90,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 800
TD travel mm: 1,5...2,1
mm: (1,1...2,5)
2nd speed 1/min: 1000
TD travel mm: -
mm: (2,3...3,7)
3rd speed 1/min: 1750
TD travel mm: 6,1...6,9
mm: (5,8...7,2)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Supply-pump
pressure bar: 3,5...4,1
2nd speed 1/min: 800
Supply-pump
pressure bar: 5,2...5,8
3rd speed 1/min: 1750
Supply-pump
pressure bar: 8,2...8,8

Overflow quantity at overflow valve:

1st speed 1/min: 600
Overflow : 41...83
quantity cm3/10s: (26...98)
2nd speed 1/min: 1750
Overflow : 55...138
quantity cm3/10s: (40...153)

Delivery-quant. and breakaway char.:
1st speed 1/min: 2130

Del. quantity cm³/: -
 1000H.: 0...2,5
 3rd speed 1/min: 2000
 Del. quantity cm³/: 8,5...16,5
 1000H.: (8,0...17,0)
 4th speed 1/min: 1900
 Del. quantity cm³/: -
 1000H.: (29,5...38,5)
 5th speed 1/min: 1750
 Del. quantity cm³/: 62,0...65,0
 1000H.: (60,8...66,2)
 6th speed 1/min: 1400
 Del. quantity cm³/: 60,0...63,0
 1000H.: (58,8...64,2)
 7th speed 1/min: 1000
 Del. quantity cm³/: -
 1000H.: (50,8...56,2)
 8th speed 1/min: 600
 Del. quantity cm³/: 45,5...48,5
 1000H.: (43,6...50,4)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
 Del. quantity cm³/: -
 1000H.

Electr. shutoff:

Speed 1/min: 1750
 ELAB volt: -
 1000H.

Idle delivery:

1st speed 1/min: 420
 Del. quantity cm³/: -
 1000H.: (13,5...22,5)
 2nd speed 1/min: 480
 Del. quantity cm³/: 1,0...7,0
 1000H.: (0...8,5)
 3rd speed 1/min: 550
 Del. quantity cm³/: -
 1000H.: 0...2,5

Automatic starting fuel delivery:

1st speed 1/min: 300
 Del. quantity cm³/: -
 ind. 1000H: 60,0
 2nd speed 1/min: 500
 Del. quantity cm³/: -
 ax. 1000H: 54,0

Shutoff electromagnet:

Cut-in
 min. voltage : 10,0
 Rated voltage : 12,0

M02

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 5,1...5,4
MS	mm	: 0,7...0,95
SVS max.	mm	: 3,0
XK	mm	: 18,8...20,8
XL	mm	: 10,5...13,9

Pushing electromagnet.

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : OPE 2,3 K2
Edition : 15.10.86
replaces : -
Calibrating oil : ISO-4113
Injection pump : VE 4/10F2100 L156-1
Type number : 0 460 404 048
Customer-specific information
Customer : OPEL REKORD AUTOM.
Engine : 2,3 TD

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50
Inlet press., bar : 0.2
Calibrating nozzle-holder
assembly : 1 688 901 000
Opening
pressure bar : 147...150
Test inj. tubing : 1 680 750 017
Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1200
Charge press. hPa: 800
Setting value mm: 3,4...4,0

Supply-pump pressure:

Speed 1/min: 1200
Charge press. hPa: 800
Setting value bar: 4,4...5,0

Full-load del. with charge press.:

Speed 1/min: 1200
Charge press. hPa: 800

Del. quantity cm³/
1000H.: 58,5...59,5
Dispersion cm³ / : 3,0
1000H : -

Full-load del. w/out charge press.:

Speed 1/min : 500
Del. quantity cm³/
1000H.: 36,0...37,0

Low-idle speed regulation:

Speed 1/min: 290
Del. quantity cm³/
1000H.: 13,5...17,5
Dispersion cm³ / : 3,0
1000H.: -

Full-load speed regulation:

Speed 1/min: 2300
Charge press. hPa: 800
Del. quantity cm³/
1000H: 28,5...35,5

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 48,0

Load-dependent start of delivery:

Speed 1/min: 1500
Charge press. hPa: -

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 800
Charge press. hPa: 800
TD travel mm: 1,5...2,3
mm: (1,2...2,6)

2nd speed 1/min: 1200
Charge press. hPa: 800
TD travel mm: -
mm: (3,0...4,4)

3rd speed 1/min: 1500
Charge press. hPa: 800
TD travel mm: 5,1...5,5
mm: (4,6...6,0)

4th speed 1/min: 2100
Charge press. hPa: 800
TD travel mm: 7,9...8,7
mm: (7,6...9,0)

Supply-pump pressure characteristic:

1st speed 1/min: 500
Charge press. hPa: 800
Supply-pump pressure bar: 2,7...3,3
2nd speed 1/min: 1500
Charge press. hPa: 800
Supply-pump pressure bar: 5,0...5,6
3rd speed 1/min: 2100
Charge press. hPa: 800
Supply-pump pressure bar: 6,4...7,0

Overflow quantity at overflow valve:

1st speed 1/min: 500
Charge press. hPa: -
Overflow : 41...83
quantity cm³/10s: (26...98)
2nd speed 1/min: 2100
Charge press. hPa: 800
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
Charge-air pressure-setting point hPa: 300
LDA stroke mm: 6,2
Del.quantity cm³/: 43,5...44,5
1000H.: (40,6...47,4)
2nd speed 1/min: 2550
Charge press. hPa: 800
Del.quantity cm³/: -
1000H.: 0...6,0
3rd speed 1/min: 2425
Charge press. hPa: 800
Del.quantity cm³/: 15,0...21,0
1000H.: (13,5...22,5)
4th speed 1/min: 2300
Charge press. hPa: 800
Del.quantity cm³/: -
1000H.: (27,5...36,5)
5th speed 1/min: 2100
Charge press. hPa: 800
Del.quantity cm³/: 46,3...48,7
1000H.: (44,9...50,1)
6th speed 1/min: 1200
Charge press. hPa: 800
Del.quantity cm³/: -
1000H.: (56,4...61,6)
7th speed 1/min: 500
Charge press. hPa: -
Del.quantity cm³/: -
1000H.: (33,1...39,9)

Zero delivery (stop):

Mech. shutoff:

M04

Speed 1/min: -
Del.quantity cm³/: -
1000H.

Electr. shutoff:
Speed 1/min: 2100
ELAB volt: -
1000H.

Idle delivery:

1st speed 1/min: 290
Del.quantity cm³/: -
1000H.: (11,0...20,0)
2nd speed 1/min: 320
Del.quantity cm³/: 7,0...13,0
1000H.: (5,5...14,5)
3rd speed 1/min: 380
Del.quantity cm³/: -
1000H.: 0...2,5

Automatic starting fuel delivery:

1st speed 1/min: 250
Del.quantity cm³/: -
ind. 1000H: 50,0
2nd speed 1/min: 400
Del.quantity cm³/: -
ax. 1000H: 47,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 5,7...6,0
MS	mm	: 0,9...1,15
SVS max.	mm	: 4,4
XK	mm	: 18,7...20,7
XL	mm	: 9,4...12,8

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4A
Edition : 2.12.86
replaces : 5.84
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L116
Type number : 0 460 406 018

Customer-specific information
Customer : VWV

Engine : 087-T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750

Del. quantity cm³/
1000H.: 43,0...44,0
Dispersion cm³/ : 2,5
1000H : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 26,5...27,5

Low-idle speed regulation:

Speed 1/min: 415
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/ : 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H: 10,0...16,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 42,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1200
Charge press. hPa: 750
TD travel mm: 0,2...1,0
mm: (0...1,3)
2nd speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,9...2,3)
3rd speed 1/min: 2400
Charge press. hPa: 750
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 750
Supply-pump
pressure bar: 7,8...8,4

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow : 55...138
quantity cm³/10s: (40...153)
2nd speed 1/min: 2400
Charge press. hPa: 750
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
Charge-air pressure-setting
point hPa: 300
LDA stroke mm: 4,2
Del. quantity cm³/ : 33,5...34,5
1000H.: (31,0...37,0)
2nd speed 1/min: 2825
Charge press. hPa: 750
Del. quantity cm³/ : -
1000H.: 0...6,0
3rd speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/ : -
1000H.: (9,0...17,0)
4th speed 1/min: 2400
Charge press. hPa: 750
Del. quantity cm³/ : 35,6...37,6
1000H.: (34,3...38,9)
5th speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm³/ : -
1000H.: (41,2...45,8)
6th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/ : -
1000H.: (24,0...30,0)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: -
Del. quantity cm³/ : -
1000H.

Electr. shutoff:
Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/ : -
1000H.

Idle delivery:

1st speed 1/min: 415
Del. quantity cm³/ : -
1000H.: (4,0...12,0)
2nd speed 1/min: 750

Del. quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
Del. quantity cm³/: -
ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,3...6,6
MS mm : 1,7...1,9
SVS max. mm : 2,4
XK mm : 21,8...23,8
XL mm : 9,4...12,7

Remarks:
Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : BMW 2,4 A
Edition : 19.12.86
replaces : 4.86
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 R121
Type number : 0 460 406 022

Customer-specific information
Customer : BMW

Engine : M21D24

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 022

Opening
pressure bar : 130...133

Test inj. tubing : 1 680 750 073

Outside diameter : 6
x Wall thickness : 2
x Length mm : 450

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 1050
Setting value mm: 4,1...4,5
KSB solenoid-operated
valve volt: -

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 1050
Setting value bar: 6,1...6,5
KSB solenoid-operated
valve volt: -

Full-load del. with charge press.:

MOB

Speed 1/min: 1500
Charge press. hPa: 1050
Del. quantity cm³/
1000H.: 40,0...41,0
KSB solenoid-operated
valve volt: -
Dispersion cm³/
1000H.: 3,0

Full-load del. w/out charge press.:

Speed 1/min : 500
Del. quantity cm³/
1000H.: 27,5...28,5
KSB solenoid-operated
valve volt: -
Dispersion cm³/
1000H.: 3,0

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: -
Del. quantity cm³/
1000H.: 6,0...10,0

KSB solenoid-operated
valve volt: -
Full-load speed regulation:

Speed 1/min: 2600
Charge press. hPa: 1050
Del. quantity cm³/
1000H.: 17,0...23,0
KSB solenoid-operated
valve volt: -
Dispersion cm³/
1000H.: 5,0

Start:

Speed 1/min: 250
Del. quantity mind.
cm³/1000H.: 36,0
KSB solenoid-operated
valve volt: -

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 500
Charge press. hPa: 1050
TD travel mm: 1,9...2,9
mm: (1,7...3,1)
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1000

Charge press. hPa: 1050
TD travel mm: 3,7...4,7
mm: (3,5...4,9)

KSB solenoid-operated
valve volt: 12,0
3rd speed 1/min: 750
Charge press. hPa: 1050
TD travel mm: 1,3...2,1
mm: (1,0...2,4)

KSB solenoid-operated
valve volt: -
4th speed 1/min: 1500
Charge press. hPa: 1050
TD travel mm: -
mm: (3,6...5,0)

KSB solenoid-operated
valve volt: -
5th speed 1/min: 2300
Charge press. hPa: 1050
TD travel mm: 7,4...8,2
mm: (7,1...8,5)

KSB solenoid-operated
valve volt: -

Supply-pump pressure characteristic:

1st speed 1/min: 500
Charge press. hPa: 1050
Supply-pump
pressure bar: 3,2...3,6

KSB solenoid-operated
valve volt: -
2nd speed 1/min: 2300
Charge press. hPa: 1050

Supply-pump
pressure bar: 8,1...8,5
KSB solenoid-operated
valve volt: -

Overflow quantity at overflow valve:

1st speed 1/min: 500
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Overflow : 41...83
quantity cm³/10s: (26...98)

2nd speed 1/min: 2400
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 750
Charge-air pressure-setting
point hPa: 250
LDA stroke mm: 4,3

KSB solenoid-operated
valve volt: -
Del.quantity cm³/: 33,5...34,5
1000H.: (31,7...36,3)

2nd speed 1/min: 2700
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: 7,0...13,0
1000H.: (6,0...14,0)

3rd speed 1/min: 2600
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: -
1000H.: (16,0...24,0)

4th speed 1/min: 2400
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: 40,5...42,5
1000H.: (39,2...43,8)

5th speed 1/min: 1500
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: -
1000H.: (38,2...42,8)

6th speed 1/min: 750
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: 33,5...34,5
1000H.: (31,7...36,3)

7th speed 1/min: 500
Charge press. hPa: 1050
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: -
1000H.: (25,7...30,3)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 2400
Del.quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 475
KSB solenoid-operated
valve volt: -
Del.quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 100
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 27,0...37,0
ind. 1000H: -

2nd speed 1/min: 400
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 32,0...42,0
ax. 1000H: -

3rd speed 1/min: 480
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 25,2...29,8
1000H: -

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,3...6,6
MS mm : 1,5...1,7
SVS max. mm : 4,0
XK mm : 20,2...22,2
XL mm : 9,5...12,8

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 L
Edition : 19.12.86
replaces : 6.84
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L144
Type number : 0 460 406 029

Customer-specific information
Customer : VW

Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 0,8...1,2
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3
KSB solenoid-operated
valve volt: 12,0

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm³/
1000H.: 44,0...45,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³ : 2,5
1000H : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 25,5...26,5
KSB solenoid-operated
valve volt: 12,0

Low-idle speed regulation:

Speed 1/min: 415
Charge press. hPa: -
Del. quantity cm³/
1000H.: 6,0...10,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³ : 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H.: 10,0...16,0
KSB solenoid-operated
valve volt: 12,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0
KSB solenoid-operated
valve volt: 12,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,3...1,7)
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1500
Charge press. hPa: 750

TD travel mm: 3,0...4,0
mm: (2,8...4,2)

KSB solenoid-operated
valve volt: 12,0

3rd speed 1/min: 2000

Charge press. hPa: 750

TD travel mm: 3,1...3,9
mm: (2,8...4,2)

KSB solenoid-operated
valve volt: 12,0

4th speed 1/min: 2000

Charge press. hPa: 750

TD travel mm: 5,8...7,0
mm: (5,7...7,1)

KSB solenoid-operated
valve volt: -

5th speed 1/min: 2400

Charge press. hPa: 750

TD travel mm: 5,0...5,8
mm: (4,7...6,1)

KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure characteristic:

1st speed 1/min: 600

Charge press. hPa: 750

Supply-pump
pressure bar: 3,3...3,9

KSB solenoid-operated
valve volt: 12,0

2nd speed 1/min: 1500

Charge press. hPa: 750

Supply-pump
pressure bar: 6,8...7,4

KSB solenoid-operated
valve volt: -

3rd speed 1/min: 2400

Charge press. hPa: 750

Supply-pump
pressure bar: 7,8...8,4

KSB solenoid-operated
valve volt: 12,0

Overflow quantity at overflow valve:

1st speed 1/min: 600

Charge press. hPa: -

KSB solenoid-operated
valve volt: 12,0

Overflow : 55...138
quantity cm³/10s: (40...153)

2nd speed 1/min: 2400

Charge press. hPa: 750

KSB solenoid-operated
valve volt: 12,0

Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

M12

1st speed 1/min: 800

Charge-air pressure-setting
point hPa: 300

LDA stroke mm: 5,3

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: 32,5...33,5
1000H.: (30,0...36,0)

2nd speed 1/min: 2825

Charge press. hPa: 750

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: -
1000H.: 0...6,0

3rd speed 1/min: 2675

Charge press. hPa: 750

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: -
1000H.: (9,0...17,0)

4th speed 1/min: 2400

Charge press. hPa: 750

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: 35,0...37,0
1000H.: (33,7...38,3)

5th speed 1/min: 1500

Charge press. hPa: 750

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: -
1000H.: (42,2...46,8)

6th speed 1/min: 600

Charge press. hPa: -

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: -
1000H.: (23,0...29,0)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: -
Del. quantity cm³/: -
1000H.

Electr. shutoff:
Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 415

KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: -
1000H.: (4,0...12,0)

2nd speed 1/min: 750

KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 6,3...6,6
MS	mm	: 1,7...1,9
SVS max.	mm	: 6,0
XK	mm	: 21,8...23,8
XL	mm	: 8,9...12,3

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 L1
Edition : 19.12.86
replaces : 6.84
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L144-1
Type number : 0 460 406 030

Customer-specific information
Customer : VW

Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 0,8...1,2
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3
KSB solenoid-operated
valve volt: 12,0

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm³/
1000H.: 44,0...45,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³ : 2,5
1000H : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 25,5...26,5
KSB solenoid-operated
valve volt: 12,0

Low-idle speed regulation:

Speed 1/min: 415
Charge press. hPa: -
Del. quantity cm³/
1000H.: 6,0...10,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³: 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H: 10,0...16,0
KSB solenoid-operated
valve volt: 12,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0
KSB solenoid-operated
valve volt: 12,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,3...1,7)
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1500
Charge press. hPa: 750

TD travel mm: 3,0...4,0
mm: (2,8...4,2)
KSB solenoid-operated
valve volt: 12,0
3rd speed 1/min: 2000
Charge press. hPa: 750
TD travel mm: 3,1...3,9
mm: (2,8...4,2)

KSB solenoid-operated
valve volt: 12,0
4th speed 1/min: 2000
Charge press. hPa: 750
TD travel mm: 5,8...7,0
mm: (5,7...7,1)

KSB solenoid-operated
valve volt: -
5th speed 1/min: 2400
Charge press. hPa: 750
TD travel mm: 5,0...5,8
mm: (4,7...6,1)

KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,3...3,9
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1500
Charge press. hPa: 750
Supply-pump
pressure bar: 6,8...7,4
KSB solenoid-operated
valve volt: -
3rd speed 1/min: 2400
Charge press. hPa: 750
Supply-pump
pressure bar: 7,8...8,4
KSB solenoid-operated
valve volt: 12,0

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
KSB solenoid-operated
valve volt: 12,0
Overflow quantity cm3/10s: 55...138
(40...153)
2nd speed 1/min: 2400
Charge press. hPa: 750
KSB solenoid-operated
valve volt: 12,0
Overflow quantity cm3/10s: 55...138
(40...153)

Delivery-quant. and breakaway char.:

M15

1st speed 1/min: 800
Charge-air pressure-setting
point hPa: 300
LDA stroke mm: 5,3
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: 32,5...33,5
1000H.: (30,0...36,0)

2nd speed 1/min: 2825
Charge press. hPa: 750
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: 0...6,0

3rd speed 1/min: 2675
Charge press. hPa: 750
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (9,0...17,0)

4th speed 1/min: 2400
Charge press. hPa: 750
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: 35,0...37,0
1000H.: (33,7...38,3)

5th speed 1/min: 1500
Charge press. hPa: 750
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (42,2...46,8)

6th speed 1/min: 600
Charge press. hPa: -
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (23,0...29,0)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 2400
Del. quantity cm3/: -
1000H.

Electr. shutoff:
Speed 1/min: 400
ELAB volt: -
Del. quantity cm3/: -
1000H.

Idle delivery:

1st speed 1/min: 415
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 750

KSB solenoid-operated
valve volt: 12,0
Del.quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: 12,0
Del.quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
KSB solenoid-operated
valve volt: 12,0
Del.quantity cm³/: -
ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 6,3...6,6
MS	mm	: 1,7...1,9
SVS max.	mm	: 6,0
XK	mm	: 21,8...23,8
XL	mm	: 8,9...12,3

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 L3
Edition : 19.12.86
replaces : 6.84
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L146
Type number : 0 460 406 033

Customer-specific information
Customer : VW

Engine : 087

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Setting value mm: 2,8...3,2
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure:

Speed 1/min: 1500
Setting value bar: 5,5...6,1
KSB solenoid-operated
valve volt: 12,0

Full-load del. w/out charge press.:

Speed 1/min : 1500

Del. quantity cm³/
1000H.: 28,5...29,5
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³/: 2,5
1000H.: (3,0)

Low-idle speed regulation:

Speed 1/min: 375
Del. quantity cm³/
1000H.: 6,0...10,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm³/: 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2700
Del. quantity cm³/
1000H.: 6,0...12,0
KSB solenoid-operated
valve volt: 12,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 35,0
KSB solenoid-operated
valve volt: 12,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
TD travel mm: 0,6...1,4
mm: (0,3...1,7)
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1000
TD travel mm: 1,8...3,0
mm: (1,7...3,1)
KSB solenoid-operated
valve volt: -
3rd speed 1/min: 1500
TD travel mm: -
mm: (2,3...3,7)
KSB solenoid-operated
valve volt: 12,0
4th speed 1/min: 1500
TD travel mm: 4,1...5,1
mm: (3,9...5,3)
KSB solenoid-operated
valve volt: -
5th speed 1/min: 2400

TD travel mm: 6,0...6,8
mm: (5,7...7,1)
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure characteristic:

1st speed 1/min: 600
Supply-pump
pressure bar: 3,0...3,6
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1500
Supply-pump
pressure bar: 6,6...7,2
KSB solenoid-operated
valve volt: -
3rd speed 1/min: 2400
Supply-pump
pressure bar: 7,6...8,2
KSB solenoid-operated
valve volt: 12,0

Overflow quantity at overflow valve:

1st speed 1/min: 600
KSB solenoid-operated
valve volt: 12,0
Overflow : 55...138
quantity cm³/10s: (40...153)
2nd speed 1/min: 2400
KSB solenoid-operated
valve volt: 12,0
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 2825
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: 0...3,0
3rd speed 1/min: 2700
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: (5,0...13,0)
4th speed 1/min: 2400
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: 22,0...24,0
1000H.: (20,7...25,3)
5th speed 1/min: 1500
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: (26,7...31,3)
6th speed 1/min: 750
KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: 26,0...29,0
1000H.: (24,5...30,5)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: -
Del. quantity cm³/: -
1000H.

Electr. shutoff:
Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 375
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 600
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: 0...4,0

Automatic starting fuel delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ax. 1000H: 25,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,4...6,7
MS mm : 1,5...1,7
SVS max. mm : 3,6
XK mm : 21,8...23,8
XL mm : 8,9...12,3

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 L2
Edition : 19.12.86
replaces : 6.84
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L146-1
Type number : 0 460 406 034

Customer-specific information
Customer : VW

Engine : 087

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Setting value mm: 2,8...3,2
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure:

Speed 1/min: 1500
Setting value bar: 5,5...6,1
KSB solenoid-operated
valve volt: 12,0

Full-load del. w/out charge press.:

Speed 1/min : 1500

Del. quantity cm3/
1000H.: 28,5...29,5
KSB solenoid-operated
valve volt: 12,0
Dispersion cm3/: 2,5
1000H.: (3,0)

Low-idle speed regulation:

Speed 1/min: 375
Del. quantity cm3/
1000H.: 6,0...10,0
KSB solenoid-operated
valve volt: 12,0
Dispersion cm3/: 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2700
Del. quantity cm3/
1000H.: 6,0...12,0
KSB solenoid-operated
valve volt: 12,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm3/1000H.: 35,0
KSB solenoid-operated
valve volt: 12,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
TD travel mm: 0,6...1,4
mm: (0,3...1,7)
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1000
TD travel mm: 1,8...3,0
mm: (1,7...3,1)
KSB solenoid-operated
valve volt: -
3rd speed 1/min: 1500
TD travel mm: -
mm: (2,3...3,7)
KSB solenoid-operated
valve volt: 12,0
4th speed 1/min: 1500
TD travel mm: 4,1...5,1
mm: (3,9...5,3)
KSB solenoid-operated
valve volt: -
5th speed 1/min: 2400

TD travel mm: 6,0...6,8
mm: (5,7...7,1)
KSB solenoid-operated
valve volt: 12,0

Supply-pump pressure characteristic:

1st speed 1/min: 600
Supply-pump
pressure bar: 3,0...3,6
KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1500
Supply-pump
pressure bar: 6,6...7,2
KSB solenoid-operated
valve volt: -
3rd speed 1/min: 2400
Supply-pump
pressure bar: 7,6...8,2
KSB solenoid-operated
valve volt: 12,0

Overflow quantity at overflow valve:

1st speed 1/min: 600
KSB solenoid-operated
valve volt: 12,0
Overflow : 55...138
quantity cm3/10s: (40...153)
2nd speed 1/min: 2400
KSB solenoid-operated
valve volt: 12,0
Overflow : 55...138
quantity cm3/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 2825
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: 0...3,0
3rd speed 1/min: 2700
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (5,0...13,0)
4th speed 1/min: 2400
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: 22,0...24,0
1000H.: (20,7...25,3)
5th speed 1/min: 1500
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm3/: -
1000H.: (26,7...31,3)
6th speed 1/min: 750
KSB solenoid-operated
valve volt: 12,0

Del. quantity cm³/: 26,0...29,0
1000H.: (24,5...30,5)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
Del. quantity cm³/: -
1000H.

Electr. shutoff:

Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 375
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: (4,0...12,0)

2nd speed 1/min: 600
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
1000H.: 0...4,0

Automatic starting fuel delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
KSB solenoid-operated
valve volt: 12,0
Del. quantity cm³/: -
ax. 1000H: 25,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 6,4...6,7
MS	mm	: 1,5...1,7
SVS max.	mm	: 3,6
XK	mm	: 21,8...23,8
XL	mm	: 8,9...12,3

Remarks:

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BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VW2,4 C2
Edition : 1.10.86
replaces : -
Calibrating oil : ISO-4113

Injection pump : VE 6/10F2400 L116-4
Type number : 0 460 406 035

Customer-specific information
Customer : VW

Engine : 087T -VOL LLK

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750

Del. quantity cm³/
1000H.: 43,0...44,0
Dispersion cm³/ : 2,5
1000H. : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 26,5...27,5

Low-idle speed regulation:

Speed 1/min: 375
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/: 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H.: 10,0...10,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1200
Charge press. hPa: 750
TD travel mm: 0,2...1,0
mm: (0...1,3)
2nd speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,9...2,3)
3rd speed 1/min: 2400
Charge press. hPa: 750
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 750
Supply-pump
pressure bar: 7,8...8,4

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow : 55...138
quantity cm³/10s: (40...153)
2nd speed 1/min: 2400
Charge press. hPa: 750
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 2825
Charge-air pressure-setting
point hPa: 750
LDA stroke mm: 4,2
Del. quantity cm³/:
1000H.: 0...6,0
2nd speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H.: (9,0...17,0)
3rd speed 1/min: 2400
Charge press. hPa: 750
Del. quantity cm³/
1000H.: (35,6...37,6
(34,4...38,8)
4th speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm³/
1000H.: (41,3...45,7)
5th speed 1/min: 800
Charge press. hPa: 750
Del. quantity cm³/
1000H.: (33,5...34,5
(31,0...37,0)
6th speed 1/min: 600
Charge press. hPa: 750
Del. quantity cm³/
1000H.: (24,0...30,0)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
Del. quantity cm³/
1000H.:

Electr. shutoff:

Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/
1000H.:

Idle delivery:

1st speed 1/min: 415
Del. quantity cm³/
1000H.: (4,0...12,0)
2nd speed 1/min: 750

Del. quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³/: -
ind. 1000H: 20,0

2nd speed 1/min: 500
Del. quantity cm³/: -
ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2-3,4
KF	mm	: 6,3-6,6
MS	mm	: 1,7-1,9
SVS max.	mm	: 2,4
XK	mm	: 21,8-23,8
XL	mm	: 9,6-12,7

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 C1
Edition : 19.12.86
replaces : -
Calibrating oil : ISO-4113
Injection pump : VE 6/10F2400 L116-5
Type number : 0 460 406 036

Customer-specific information
Customer : VW

Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750

Del. quantity cm³/
1000H.: 43,0...44,0
Dispersion cm³/
1000H : 2,5
1000H : -

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 26,5...27,5

Low-idle speed regulation:

Speed 1/min: 415
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/
1000H.: 2,0
1000H.: -

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H: 10,0...16,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1200
Charge press. hPa: 750
TD travel mm: 0,2...1,0
mm: (0...1,3)
2nd speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,9...2,3)
3rd speed 1/min: 2400
Charge press. hPa: 750
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 750
Supply-pump
pressure bar: 8,0...8,6

Overflow quantity at overflow valve:

1st speed 1/min: 600
 Charge press. hPa: -
 Overflow : 55..60,0
 quantity cm3/10s: (50..65,0)
 2nd speed 1/min: 2400
 Charge press. hPa: 750
 Overflow : 82..112
 quantity cm3/10s: (77...117)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
 Charge-air pressure-setting point hPa: 300
 LDA stroke mm: 4,8
 Del.quantity cm3/: 33,5...34,5
 1000H.: (31,0...37,0)
 2nd speed 1/min: 2825
 Charge press. hPa: 750
 Del.quantity cm3/: -
 1000H.: 0...6,0
 3rd speed 1/min: 2675
 Charge press. hPa: 750
 Del.quantity cm3/: -
 1000H.: (9,0...17,0)
 4th speed 1/min: 2575
 Charge press. hPa: 750
 Del.quantity cm3/: 21,0...31,0
 1000H.: (20,0...32,0)
 5th speed 1/min: 2400
 Charge press. hPa: 750
 Del.quantity cm3/: 35,6...37,6
 1000H.: (34,4...38,8)
 6th speed 1/min: 1500
 Charge press. hPa: 750
 Del.quantity cm3/: -
 1000H.: (41,3...45,7)
 8th speed 1/min: 600
 Charge press. hPa: -
 Del.quantity cm3/: -
 1000H.: (24,0...30,0)
 9th speed 1/min: 600
 Charge press. hPa: 750
 Del.quantity cm3/: 35,5...38,5
 1000H.: (34,0...40,0)

Zero delivery (stop):

Mech. shutoff:
 Speed 1/min: -
 Del.quantity cm3/: -
 1000H.

Electr. shutoff:
 Speed 1/min: 415
 ELAB volt: -
 Del.quantity cm3/: 3
 1000H.

Idle delivery:

1st speed 1/min: 415
 Del.quantity cm3/: -
 1000H.: (4,0-12,0)

Automatic starting fuel delivery:

1st speed 1/min: 400
 Del.quantity cm3/: 20,0...70,0
 ind. 1000H: 20,0

2nd speed 1/min: 500
 Del.quantity cm3/: 10,0...30,0
 ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
 min. voltage : 10,0
 Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 6,3...6,6
MS	mm	: 1,7..1,95
SVS max.	mm	: 2,8

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 M
Edition : 19.12.86
replaces : 9.83
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2150 L152
Type number : 0 460 406 040

Customer-specific information
Customer : VW

Engine : 087T-LT

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 2,3...2,7

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,5...6,1

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750

Del. quantity cm³/
1000H.: 41,5...42,5
Dispersion cm³/ : 2,5
1000H. : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 23,5...24,5

Low-idle speed regulation:

Speed 1/min: 375
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/ : 2,0
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2400
Charge press. hPa: 750
Del. quantity cm³/
1000H.: 9,0...15,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 35,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
Charge press. hPa: 750
TD travel mm: 0,5...1,3
mm: (0,2...1,6)
2nd speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (1,8...3,2)
3rd speed 1/min: 2150
Charge press. hPa: 750
TD travel mm: 4,4...5,2
mm: (4,1...5,5)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,1...3,7
2nd speed 1/min: 2150
Charge press. hPa: 750
Supply-pump
pressure bar: 7,2...7,8

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow : 55...138
quantity cm³/10s: (40...153)
2nd speed 1/min: 2150
Charge press. hPa: 750
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 750
Charge-air pressure-setting
point hPa: 300
LDA stroke mm: 4,5
Del. quantity cm³/: 32,5...33,5
1000H.: (30,7...35,3)

2nd speed 1/min: 2600
Charge press. hPa: 750
Del. quantity cm³/: -
1000H.: 0...3,0

3rd speed 1/min: 2400
Charge press. hPa: 750
Del. quantity cm³/: -
1000H.: (8,0...16,0)

4th speed 1/min: 2150
Charge press. hPa: 750
Del. quantity cm³/: 35,0...37,0
1000H.: (33,7...38,3)

5th speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm³/: -
1000H.: (39,7...44,3)

6th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/: -
1000H.: (21,7...26,3)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
Del. quantity cm³/: -
1000H.

Electr. shutoff:

Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 375
Del. quantity cm³/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 450

Del. quantity cm³/: -
1000H.: 0...3,0

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm³/: -
ind. 1000H.: 25,0

2nd speed 1/min: 500
Del. quantity cm³/: -
ax. 1000H.: 27,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	: 3,2...3,4
KF	mm	: 6,3...6,6
MS	mm	: 1,0...1,2
SVS max.	mm	: 3,8
FH	mm	: 1,8...2,4

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : BMW 2,4 E
Edition : 19.12.86
replaces : 10.85
Calibrating oil : ISO 4113
Injection pump : VE 6/10F2300 R206
Type number : 0 460 406 047

Customer-specific information
Customer : BMW

Engine : M21D24W

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 022

Opening
pressure bar : 130...133

Test inj. tubing : 1 680 750 073

Outside diameter : 6
x Wall thickness : 2
x Length mm : 450

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 500
Setting value mm: 4,1...4,5
KSB solenoid-operated
valve volt: -

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 500
Setting value bar: 5,9...6,5
KSB solenoid-operated
valve volt: -

Full-load del. w/out charge press.:

N01

Speed 1/min : 1250
Del. quantity cm³/
1000H.: 27,5...28,5
KSB solenoid-operated
valve volt: -
Dispersion cm³/: 3,5
1000H.: -

Low-idle speed regulation:

Speed 1/min: 400
Charge press. hPa: 500
Del. quantity cm³/
1000H.: 6,0...10,0
KSB solenoid-operated
valve volt: -
Dispersion cm³/: 3,5
1000H.: -

Full-load speed regulation:

Speed 1/min: 2500
Charge press. hPa: 500
Del. quantity cm³/
1000H.: 11,5...17,5
KSB solenoid-operated
valve volt: -
Dispersion cm³/: 5,0
1000H.: -

Start:

Speed 1/min: 100
Charge press. hPa: -
Del. quantity mind.
cm³/1000H.: 45,0
KSB solenoid-operated
valve volt: -
1000H.: 12,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 500
Charge press. hPa: 500
TD travel mm: 3,0...4,0
mm: (2,8...4,2)

KSB solenoid-operated
valve volt: 12,0
2nd speed 1/min: 1000
Charge press. hPa: 500
TD travel mm: 4,5...5,5
mm: (4,3...5,7)

KSB solenoid-operated
valve volt: 12,0
3rd speed 1/min: 750
Charge press. hPa: 500

TD travel mm: 0,8...1,6
mm: (0,5...1,9)

KSB solenoid-operated
valve volt: -
4th speed 1/min: 1500
Charge press. hPa: 500
TD travel mm: -

mm: (3,6...5,0)

KSB solenoid-operated
valve volt: -
5th speed 1/min: 2000
Charge press. hPa: 500
TD travel mm: 6,1...6,9

mm: (5,8...7,2)

KSB solenoid-operated
valve volt: -

Supply-pump pressure characteristic:

1st speed 1/min: 500
Charge press. hPa: 500

Supply-pump
pressure bar: 3,1...3,7

KSB solenoid-operated
valve volt: -

2nd speed 1/min: 2000
Charge press. hPa: 500

Supply-pump
pressure bar: 7,2...7,8

KSB solenoid-operated
valve volt: -

Overflow quantity at overflow valve:

1st speed 1/min: 500
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Overflow quantity cm³/10s: 41...83
(26...98)

2nd speed 1/min: 2300
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Overflow quantity cm³/10s: 55...138
(40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1250
Charge-air pressure-setting
point hPa: 120

LDA stroke mm: 5,0

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 23,2...26,7
1000H.: (22,7...27,3)

2nd speed 1/min: 2650
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: -
1000H.: 0...6,0

3rd speed 1/min: 2500
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: -
1000H.: (10,5...18,5)

4th speed 1/min: 2300
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 26,2...29,2
1000H.: (25,4...30,0)

5th speed 1/min: 1750
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 28,8...32,2
1000H.: (28,2...32,8)

6th speed 1/min: 1250
Charge press. hPa: -100

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 22,0...24,0
1000H.: (20,7...25,3)

7th speed 1/min: 1250
Charge press. hPa: 120

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 23,3...26,7
1000H.: (22,7...27,3)

8th speed 1/min: 1250
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: -
1000H.: (25,7...30,3)

9th speed 1/min: 500
Charge press. hPa: 500

KSB solenoid-operated
valve volt: -

Del. quantity cm³/: 27,5...30,5
1000H.: (26,0...32,0)

Zero delivery (stop):

Mech. shutoff:

Speed 1/min: -
Del. quantity cm³/: -
1000H.

Electr. shutoff:

Speed 1/min: 400
ELAB volt: -
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 400
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 450
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: -
1000H.: 0...6,0

Automatic starting fuel delivery:

1st speed 1/min: 200
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 42,0...52,0
ind. 1000H: -

2nd speed 1/min: 400
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 25,0...35,0
ax. 1000H: -

3rd speed 1/min: 480
KSB solenoid-operated
valve volt: -
Del. quantity cm³/: 21,7...26,3
1000H: -

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,4...6,6
MS mm : 1,4...1,6
SVS max. mm : 3,9

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ONA
Edition : 16.12.86
replaces : -
Calibrating oil : ISO 4113
Injection pump : VE 6/10F1800 R209
Type number : 0 460 406 048

Customer-specific information
Customer : ONAN

Engine : L634T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Start of delivery
Prestroke mm : 0,2
(from BDC): +-0,02 (0,04)

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1400
Charge press. hPa: 800
Setting value mm: 4,3...4,7

Supply-pump pressure:

Speed 1/min: 1400
Charge press. hPa: 800
Setting value bar: 4,8...5,4

Full-load del. with charge press.:

N04

Speed 1/min: 1400
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 58,5...59,5
Dispersion cm³/ : 3,0
1000H : (4,0)

Full-load del. w/out charge press.:

Speed 1/min : 700
Del. quantity cm³/
1000H.: 41,0...42,0

Low-idle speed regulation:

Speed 1/min: 350
Charge press. hPa: -
Del. quantity cm³/
1000H.: 23,0...27,0
Dispersion cm³/ : 3,0
1000H.: (4,0)

Full-load speed regulation:

Speed 1/min: 1900
Charge press. hPa: 800
Del. quantity cm³/
1000H: 37,0..43,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 55,0

Load-dependent start of delivery:

Speed 1/min: 1400
Charge press. hPa: 800

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 800
Charge press. hPa: 800
TD travel mm: 1,4...2,2
mm: (1,1...2,5)

2nd speed 1/min: 1400
Charge press. hPa: 800
TD travel mm: -
mm: (3,8...5,2)

3rd speed 1/min: 1800
Charge press. hPa: 800
TD travel mm: 5,8...6,6
mm: (5,5...6,9)

Supply-pump pressure characteristic:

1st speed 1/min: 800
Charge press. hPa: 800
Supply-pump pressure bar: 2,7...3,3
2nd speed 1/min: 1800
Charge press. hPa: 800
Supply-pump pressure bar: 6,0...6,6

Overflow quantity at overflow valve:

1st speed 1/min: 700
Charge press. hPa: 800
Overflow quantity cm³/10s: 41...83
2nd speed 1/min: 1800
Charge press. hPa: 800
Overflow quantity cm³/10s: 55...138
3rd speed 1/min: 2000
Charge press. hPa: 800
Overflow quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 700
Charge-air pressure-setting point hPa: 200
LDA stroke mm: 6,5
Del. quantity cm³/1000H.: 47,0...48,0
2nd speed 1/min: 2050
Charge press. hPa: 800
Del. quantity cm³/1000H.: (44,8...50,2)
3rd speed 1/min: 2000
Charge press. hPa: 800
Del. quantity cm³/1000H.: 0...3,0
4th speed 1/min: 1950
Charge press. hPa: 800
Del. quantity cm³/1000H.: 5,5...14,5
5th speed 1/min: 1900
Charge press. hPa: 800
Del. quantity cm³/1000H.: (5,5...14,5)
6th speed 1/min: 1800
Charge press. hPa: 800
Del. quantity cm³/1000H.: 23,0...31,0
7th speed 1/min: 1400
Charge press. hPa: 800
Del. quantity cm³/1000H.: (22,5...31,5)
8th speed 1/min: 1900
Charge press. hPa: 800
Del. quantity cm³/1000H.: (35,5...44,5)
9th speed 1/min: 1800
Charge press. hPa: 800
Del. quantity cm³/1000H.: 51,5...54,5
10th speed 1/min: 1400
Charge press. hPa: 800
Del. quantity cm³/1000H.: (50,3...55,7)
11th speed 1/min: 700
Charge press. hPa: 800
Del. quantity cm³/1000H.: (56,3...61,7)
12th speed 1/min: 700
Charge press. hPa: 800
Del. quantity cm³/1000H.: 58,0...61,0
13th speed 1/min: 700
Charge press. hPa: -
Del. quantity cm³/1000H.: (56,1...62,9)
14th speed 1/min: 700
Charge press. hPa: -
Del. quantity cm³/1000H.: (38,8...44,2)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 1800
Del. quantity cm³/1000H.: -

Idle delivery:

1st speed 1/min: 350
Del. quantity cm³/1000H.: (20,5...29,5)
2nd speed 1/min: 400
Del. quantity cm³/1000H.: 9,5...16,5
3rd speed 1/min: 450
Del. quantity cm³/1000H.: (8,5...17,5)
4th speed 1/min: 450
Del. quantity cm³/1000H.: 0...3,5

Automatic starting fuel delivery:

1st speed 1/min: 230
Del. quantity cm³/1000H.: -
2nd speed 1/min: 350
Del. quantity cm³/1000H.: 55,0
3rd speed 1/min: 350
Del. quantity cm³/1000H.: 42,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : -
KF mm : 5,7...6,0
MS mm : 1,3...1,55
SVS max. mm : 1,4

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWW 2,4 S1
Edition : 19.12.86
replaces : 12.85
Calibrating oil : ISO 4113

Injection pump : VE 4/10F2400 L216
Type number : 0 460 406 049

Customer-specific information
Customer : VW

Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 800

Del. quantity cm³/
1000H.: 45,5...46,5
Dispersion cm³/
1000H : (3,0)

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 25,5...26,5

Low-idle speed regulation:

Speed 1/min: 415
Charge press. hPa: -
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 800
Del. quantity cm³/
1000H: 13,0...19,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 65,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1500
Charge press. hPa: 800
TD travel mm: -
mm: (0,9...2,3)

2nd speed 1/min: 2000
Charge press. hPa: 800
TD travel mm: 2,7...3,5
mm: (2,4...3,8)

3rd speed 1/min: 2200
Charge press. hPa: 800
TD travel mm: 3,4...4,2
mm: (3,1...4,5)

4th speed 1/min: 2400
Charge press. hPa: 800
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 800

Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 800
Supply-pump
pressure bar: 7,9...8,5

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow : 41...83
quantity cm³/10s: (26...98)
2nd speed 1/min: 2400
Charge press. hPa: 800
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
Charge-air pressure-setting
point hPa: 300
LDA stroke mm: 5,7
Del. quantity cm³/ : 35,5...36,5
1000H.: (33,0...39,0)
2nd speed 1/min: 2850
Charge press. hPa: 800
Del. quantity cm³/ : -
1000H.: 0...6,0
3rd speed 1/min: 2675
Charge press. hPa: 800
Del. quantity cm³/ : -
1000H.: (12,0...20,0)
4th speed 1/min: 2575
Charge press. hPa: 800
Del. quantity cm³/ : 25,0...35,0
1000H.: (24,0...36,0)
5th speed 1/min: 2400
Charge press. hPa: 800
Del. quantity cm³/ : 37,5...39,5
1000H.: (36,3...40,7)
6th speed 1/min: 1500
Charge press. hPa: 800
Del. quantity cm³/ : -
1000H.: (43,8...48,2)
7th speed 1/min: 600
Charge press. hPa: 800
Del. quantity cm³/ : 37,5...40,5
1000H.: (36,0...42,0)
8th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/ : -
1000H.: (23,0...29,0)

Zero delivery (stop):
1000H.

Electr. shutoff:
Speed 1/min: 415
ELAB volt: -

Del. quantity cm³/ : -
1000H.

Idle delivery:

1st speed 1/min: 415
Del. quantity cm³/ : -
1000H.: (4,0...12,0)
2nd speed 1/min: 750
Del. quantity cm³/ : -
1000H.: 0...4,0

Automatic starting fuel delivery:

1st speed 1/min: 230
Del. quantity cm³/ : -
ind. 1000H.: 40,0
2nd speed 1/min: 380
Del. quantity cm³/ : -
ax. 1000H.: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,3...6,6
MS mm : 1,4...1,6
SVS max. mm : 0,2

Remarks:
Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : ONA
Edition : 16.12.86
replaces : -
Calibrating oil : ISO 4113

Injection pump : VE 6/10F1400 R209-1
Type number : 0 460 406 052

Customer-specific information
Customer : ONAN

Engine : L634T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Start of delivery
Prestroke mm : 0,2
(from BDC) : +-0,02 (0,04)

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1100
Charge press. hPa: 800
Setting value mm: 2,8...3,2

Supply-pump pressure:

Speed 1/min: 1100
Charge press. hPa: 800
Setting value bar: 3,8...4,4

Full-load del. with charge press.:

NO8

Speed 1/min: 1100
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 63,5...64,5
Dispersion cm³/
1000H.: (3,5)

Full-load del. w/out charge press.:

Speed 1/min: 700
Del. quantity cm³/
1000H.: 43,5...44,5

Low-idle speed regulation:

Speed 1/min: 350
Charge press. hPa: -
Del. quantity cm³/
1000H.: 23,0...27,0
Dispersion cm³/
1000H.: (3,5)

Full-load speed regulation:

Speed 1/min: 1480
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 39,0...45,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 55,0

Load-dependent start of delivery:

Speed 1/min: 1100
Charge press. hPa: 800

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 800
Charge press. hPa: 800
TD travel mm: 1,4...2,2
mm: (1,1...2,5)
2nd speed 1/min: 1100
Charge press. hPa: 800
TD travel mm: -
mm: (2,3...3,7)
3rd speed 1/min: 1400
Charge press. hPa: 800
TD travel mm: 4,2...4,8
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Charge press. hPa: 800
Supply-pump pressure bar: 1,2...1,8
2nd speed 1/min: 1400
Charge press. hPa: 800
Supply-pump pressure bar: 4,8...5,4

Overflow quantity at overflow valve:

1st speed 1/min: 700
Charge press. hPa: 800
Overflow quantity cm³/10s: 41...83
2nd speed 1/min: 1400
Charge press. hPa: 800
Overflow quantity cm³/10s: 55...138

Delivery-quant. and breakaway char.:

1st speed 1/min: 700
Charge-air pressure-setting point hPa: 200
LDA stroke mm: 6,5
Del. quantity cm³/1000H.: 49,5...50,5
2nd speed 1/min: 1600
Charge press. hPa: 800
Del. quantity cm³/1000H.: 0...3,5
3rd speed 1/min: 1560
Charge press. hPa: 800
Del. quantity cm³/1000H.: 6,0...14,0
4th speed 1/min: 1480
Charge press. hPa: 800
Del. quantity cm³/1000H.: 37,5...46,5
5th speed 1/min: 1400
Charge press. hPa: 800
Del. quantity cm³/1000H.: 59,5...62,5
6th speed 1/min: 1100
Charge press. hPa: 800
Del. quantity cm³/1000H.: 61,3...66,7
7th speed 1/min: 700
Charge press. hPa: 800
Del. quantity cm³/1000H.: 59,5...62,5
8th speed 1/min: 700
Charge press. hPa: -
Del. quantity cm³/1000H.: 41,3...46,7

Zero delivery (stop):

Mech. shutoff:

N09

Speed 1/min: 1400
Del. quantity cm³/1000H.: -

Idle delivery:

1st speed 1/min: 350
Del. quantity cm³/1000H.: (20,5...29,5)
2nd speed 1/min: 400
Del. quantity cm³/1000H.: (9,5...16,5)
3rd speed 1/min: 450
Del. quantity cm³/1000H.: (8,5...17,5)

Automatic starting fuel delivery:

1st speed 1/min: 230
Del. quantity cm³/ind. 1000H.: 55,0
2nd speed 1/min: 350
Del. quantity cm³/ax. 1000H.: 42,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K mm : -
KF mm : 5,7...6,0
MS mm : 1,3...1,55
SVS max. mm : 1,6

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWV 2,4 S
Edition : 8.12.86
replaces : 12.85
Calibrating oil : ISO 4113

Injection pump : VE 6/10F2400 L216-2
Type number : 0 460 406 053

Customer-specific information
Customer : VW

Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 800
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 800

Del. quantity cm³/
1000H.: 45,5...46,5
Dispersion cm³/
1000H.: (3,0)

Full-load del. w/out charge press.:

Speed 1/min: 600
Del. quantity cm³/
1000H.: 25,5...26,5

Low-idle speed regulation:

Speed 1/min: 415
Charge press. hPa: -
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/
1000H.: (3,0)

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 13,0...19,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1500
Charge press. hPa: 800
TD travel mm: -
mm: (0,9...2,3)
2nd speed 1/min: 2000
Charge press. hPa: 800
TD travel mm: 2,7...3,5
mm: (2,4...3,8)
3rd speed 1/min: 2200
Charge press. hPa: 800
TD travel mm: 3,4...4,2
mm: (3,1...4,5)
4th speed 1/min: 2400
Charge press. hPa: 800
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 800

Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 800
Supply-pump
pressure bar: 7,9...8,5

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow : 41...83
quantity cm³/10s: (26...98)
2nd speed 1/min: 2400
Charge press. hPa: 800
Overflow : 55...138
quantity cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
Charge-air pressure-setting
point hPa: 300
LDA stroke mm: 5,7
Del. quantity cm³/
1000H.: (32,2...36,8)
2nd speed 1/min: 2850
Charge press. hPa: 800
Del. quantity cm³/
1000H.: 0...6,0
3rd speed 1/min: 2675
Charge press. hPa: 800
Del. quantity cm³/
1000H.: (12,0...20,0)
4th speed 1/min: 2575
Charge press. hPa: 800
Del. quantity cm³/
1000H.: (26,0...34,0)
5th speed 1/min: 2400
Charge press. hPa: 800
Del. quantity cm³/
1000H.: (36,2...40,8)
6th speed 1/min: 1500
Charge press. hPa: 800
Del. quantity cm³/
1000H.: (43,7...48,3)
7th speed 1/min: 600
Charge press. hPa: 800
Del. quantity cm³/
1000H.: (35,5...41,5)
8th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm³/
1000H.: (23,7...28,3)

Zero delivery (stop):
1000H.

Electr. shutoff:
Speed 1/min: 400
ELAB volt: -

Del. quantity cm³/: -
1000H.:

Idle delivery:

1st speed 1/min: 415
Del. quantity cm³/: -
1000H.: (4,0...12,0)
2nd speed 1/min: 750
Del. quantity cm³/: -
1000H.: 0...4,0

Automatic starting fuel delivery:

1st speed 1/min: 230
Del. quantity cm³/: -
ind. 1000H: 40,0

2nd speed 1/min: 380
Del. quantity cm³/: -
ax. 1000H: 30,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K mm : 3,2...3,4
KF mm : 6,3...6,6
MS mm : 1,4...1,6
SVS max. mm : 2,9

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VWW 2,4 C5
Edition : 19.12.86
replaces : -
Calibrating oil : ISO-4113
Injection pump : VE 6/10F2400 L116-6
Type number : 0 460 406 054
Customer-specific information
Customer : VW
Engine : 087T

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50
Inlet press., bar : 0.2
Calibrating nozzle-holder
assembly : 1 688 901 000
Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value mm: 1,4...1,8

Supply-pump pressure:

Speed 1/min: 1500
Charge press. hPa: 750
Setting value bar: 5,7...6,3

Full-load del. with charge press.:

Speed 1/min: 1500
Charge press. hPa: 750

Del. quantity cm³/
1000H.: 43,0...44,0
Dispersion cm³/
1000H : 2,5
1000H : -

Full-load del. w/out charge press.:

Speed 1/min : 600
Del. quantity cm³/
1000H.: 26,5...27,5

Low-idle speed regulation:

Speed 1/min: 415
Del. quantity cm³/
1000H.: 6,0...10,0
Dispersion cm³/
1000H.: 2,0
1000H.: -

Full-load speed regulation:

Speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm³/
1000H: 10,0...16,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 40,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1200
Charge press. hPa: 750
TD travel mm: 0,2...1,0
mm: (0...1,3)
2nd speed 1/min: 1500
Charge press. hPa: 750
TD travel mm: -
mm: (0,9...2,3)
3rd speed 1/min: 2400
Charge press. hPa: 750
TD travel mm: 4,1...4,9
mm: (3,8...5,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Charge press. hPa: 750
Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 2400
Charge press. hPa: 750
Supply-pump
pressure bar: 8,0...8,6

Overflow quantity at overflow valve:

1st speed 1/min: 600
Charge press. hPa: -
Overflow quantity cm3/10s: 55...70
2nd speed 1/min: 2400
Charge press. hPa: 750
Overflow quantity cm3/10s: 82...112

Delivery-quant. and breakaway char.:

1st speed 1/min: 800
Charge-air pressure-setting point hPa: 300
LDA stroke mm: 4,8
Del. quantity cm3/1000H.: 33,5...34,5
1000H.: (31,0...37,0)

2nd speed 1/min: 2825
Charge press. hPa: 750
Del. quantity cm3/1000H.: 0...6,0

3rd speed 1/min: 2675
Charge press. hPa: 750
Del. quantity cm3/1000H.: (9,0...17,0)

4th speed 1/min: 2575
Charge press. hPa: 750
Del. quantity cm3/1000H.: 21,0...31,0
1000H.: (20,0...32,0)

5th speed 1/min: 2400
Charge press. hPa: 750
Del. quantity cm3/1000H.: 35,6...37,6
1000H.: (34,4...38,8)

6th speed 1/min: 1500
Charge press. hPa: 750
Del. quantity cm3/1000H.: (41,3...45,7)

7th speed 1/min: 800
Charge press. hPa: 300
Del. quantity cm3/1000H.: 33,5...34,5
1000H.: (31,0...37,0)

8th speed 1/min: 600
Charge press. hPa: -
Del. quantity cm3/1000H.: (24,0...30,0)

9th speed 1/min: 600
Charge press. hPa: 750
Del. quantity cm3/1000H.: 35,5...38,5
1000H.: (33,0...40,0)

Zero delivery (stop):
1000H.

Electr. shutoff:
Speed 1/min: 415
ELAB volt: -
Del. quantity cm3/1000H.: 3

Idle delivery:

1st speed 1/min: 415
Del. quantity cm3/1000H.: (4,0...12,0)

Automatic starting fuel delivery:

1st speed 1/min: 400
Del. quantity cm3/1000H.: 20,0...70,0
ind. 1000H.: 20,0

2nd speed 1/min: 500
Del. quantity cm3/1000H.: 10,0...30,0
ax. 1000H.: 30,0

Shutoff electromagnet:

Cut-in min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 6,3...6,6
MS mm : 1,7...1,95
SVS max. mm : 2,4

Remarks:

Correction at adjusting nut (46)

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 1,6 AA
Edition : 16.12.86
replaces : -
Calibrating oil : ISO 4113

Injection pump : VE 2/11F1200 R236
Type number : 0 460 412 001

Customer-specific information
Customer : STEYR

Engine : WD 209.41

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1000
Setting value mm: 4,9...5,3

Supply-pump pressure:

Speed 1/min: 1000
Setting value bar: 5,3...5,9

Full-load del. w/out charge press.:

Speed 1/min : 1000
Del.quantity cm3/
1000H.: 68,5...69,5
Dispersion cm3/: 3,5
1000H.: (4,0)

Low-idle speed regulation:

Speed 1/min: 300
Del.quantity cm3/
1000H.: 13,0...17,0
Dispersion cm3/: 3,5
1000H.: (4,0)

Full-load speed regulation:

Speed 1/min: 1280
Del.quantity cm3/
1000H.: 33,0...39,0

Start:

Speed 1/min: 100
Del.quantity mind.
cm3/1000H.: 65,0

Inspection-pump test specifications Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 600
TD travel mm: 1,5...2,3
mm: (1,2...2,6)
2nd speed 1/min: 1000
TD travel mm: -
mm: (4,4...5,8)
3rd speed 1/min: 1200
TD travel mm: 6,6...7,4
mm: (6,3...7,7)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Supply-pump
pressure bar: 3,3...3,9
2nd speed 1/min: 1200
Supply-pump
pressure bar: 6,4...7,0

Overflow quantity at overflow valve:

1st speed 1/min: 500
Overflow : 41...83
quantity cm3/10s: (26...98)
2nd speed 1/min: 1200
Overflow : 55...138
quantity cm3/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1350
Del.quantity cm3/: -
1000H.: 0...2,5
2nd speed 1/min: 1320

Del. quantity cm³/: 3,5...11,5
 1000H.: (3,0...12,0)
 3rd speed 1/min: 1280
 Del. quantity cm³/: -
 1000H.: (31,5...40,5)
 4th speed 1/min: 1200
 Del. quantity cm³/: 67,5...70,5
 1000H.: (66,3...71,7)
 5th speed 1/min: 1000
 Del. quantity cm³/: -
 1000H.: (66,3...71,7)
 6th speed 1/min: 500
 Del. quantity cm³/: 63,5...66,5
 1000H.: (61,6...68,4)

Remarks:

Zero delivery (stop):

Mech. shutoff:
 Speed 1/min: 1200
 Del. quantity cm³/: -
 1000H.:

Idle delivery:

1st speed 1/min: 300
 Del. quantity cm³/: -
 1000H.: (10,5...19,5)
 2nd speed 1/min: 350
 Del. quantity cm³/: 0...5,0
 1000H.: (0...7,0)
 3rd speed 1/min: 400
 Del. quantity cm³/: -
 1000H.: 0...2,5

Automatic starting fuel delivery:

1st speed 1/min: 170
 Del. quantity cm³/: -
 ind. 1000H: 75,0
 2nd speed 1/min: 280
 Del. quantity cm³/: -
 ax. 1000H: 65,0

Shutoff electromagnet:

Cut-in
 min. voltage : -
 Rated voltage : -

Mounting and assembly dimensions:

Designation
 K mm : 3,2...3,4
 KF mm : 5,4...5,7
 MS mm : 0,9...1,15
 SVS max. mm : 5,0
 XK mm : 17,0...19,0
 XL mm : 12,7...16,1

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : FIA 2,7 A
Edition : 16.10.86
replaces : 1.85
Calibrating oil : ISO-4113

Injection pump : VE 3/11F1250 L163-1
Type number : 0 460 413 002

Customer-specific information
Customer : FIAT-IVECO

Engine : 8035.06.200

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 020

Opening
pressure bar : 172...175

Perforated-plate
diameter mm : 0,6

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Start of delivery
Prestroke mm : 0,2
(from BDC): +/-0,02 (0,04)

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1000
Setting value mm: 2,8...3,2

Supply-pump pressure:

Speed 1/min: 1000
Setting value bar: 4,7...5,3

Full-load del. w/out charge press.:

Speed 1/min : 800
Del. quantity cm³/
1000H.: 62,5...63,5
Dispersion cm³/: 3,5
1000H.: -

Low-idle speed regulation:

Speed 1/min: 400
Del. quantity cm³/
1000H.: 15,5...19,5
Dispersion cm³/: 3,5
1000H.: -

Full-load speed regulation:

Speed 1/min: 1350
Del. quantity cm³/
1000H.: 37,0...43,0

Start:

Speed 1/min: 100
Del. quantity mind.
cm³/1000H.: 80,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 800
TD travel mm: 1,1...1,9
mm: (0,8...2,2)
2nd speed 1/min: 1000
TD travel mm: -
mm: (2,3...3,7)
3rd speed 1/min: 1250
TD travel mm: 4,4...5,2
mm: (4,1...5,5)

Supply-pump pressure characteristic:

1st speed 1/min: 400
Supply-pump pressure bar: 2,0...2,6
2nd speed 1/min: 1250
Supply-pump pressure bar: 5,8...6,4

Overflow quantity at overflow valve:

1st speed 1/min: 500
Overflow quantity cm³/10s: 55...138
(40...153)
2nd speed 1/min: 1250
Overflow quantity cm³/10s: 55...138
(40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1450
Del. quantity cm³/: -
1000H.: 0...1,0
2nd speed 1/min: 1400
Del. quantity cm³/: 6,5...13,5
1000H.: (5,5...14,5)
3rd speed 1/min: 1350
Del. quantity cm³/: -
1000H.: (35,5...44,5)
4th speed 1/min: 1250
Del. quantity cm³/: 61,5...64,5
1000H.: (60,4...65,6)
5th speed 1/min: 800
Del. quantity cm³/: -
1000H.: (60,4...65,6)
6th speed 1/min: 500
Del. quantity cm³/: 53,5...56,5
1000H.: (51,6...58,4)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 1250
Del. quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 400
Del. quantity cm³/: -
1000H.: (13,0...22,0)
2nd speed 1/min: 425
Del. quantity cm³/: -
1000H.: 0...5,0
3rd speed 1/min: 475
Del. quantity cm³/: -
1000H.: 0...1,0

Automatic starting fuel delivery:

1st speed 1/min: 150
Del. quantity cm³/: -
ind. 1000H.: 90,0
2nd speed 1/min: 250
Del. quantity cm³/: -
ax. 1000H.: 50,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation
K mm : -

KF mm : 5,1...5,3
MS mm : 1,5...1,7
SVS max. mm : 4,3

Remarks:

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 2,6K
Edition : 15.12.86
replaces : -
Calibrating oil : ISO 4113

Injection pump : VE 3/11F1200 R263
Type number : 0 460 413 006

Customer-specific information
Customer : STEYER

Engine : WD 311.44

Power k: 35

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1000
Setting value mm: 5,3...5,7

Supply-pump pressure:

Speed 1/min: 1000
Setting value bar: 6,2...6,8

Full-load del. w/out charge press.:

Speed 1/min : 1000
Del. quantity cm³/
1000H.: 64,5...65,5

Dispersion cm³/: 3,5
1000H.: (4,0)

Low-idle speed regulation:

Speed 1/min: 300
Del.quantity cm³/
1000H.: 19,0...23,0
Dispersion cm³/: 3,5
1000H.: (4,0)

Full-load speed regulation:

Speed 1/min: 1250
Del.quantity cm³/
1000H.: 43,5...51,5

Start:

Speed 1/min: 100
Del.quantity mind.
cm³/1000H.: 80,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 500
TD travel mm: 0,7...1,5
mm: (0,4...1,8)
2nd speed 1/min: 1000
TD travel mm: -
mm: (4,8...6,2)
3rd speed 1/min: 1200
TD travel mm: 6,7...7,5
mm: (6,4...7,8)

Supply-pump pressure characteristic:

1st speed 1/min: 500
Supply-pump pressure bar: 4,3...4,9
2nd speed 1/min: 1200
Supply-pump pressure bar: 7,0...7,6

Overflow quantity at overflow valve:

1st speed 1/min: 500
Overflow quantity cm³/10s: 41...83
cm³/10s: (26...98)
2nd speed 1/min: 1200
Overflow quantity cm³/10s: 55...138
cm³/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1350
Del.quantity cm³/: -
1000H.: 0...2,5

3rd speed 1/min: 1300
Del.quantity cm³/: 17,0...23,0
1000H.: (15,5...24,5)
4th speed 1/min: 1250
Del.quantity cm³/: -
1000H.: (43,0...52,0)
5th speed 1/min: 1200
Del.quantity cm³/: 60,0...63,0
1000H.: (58,8...64,2)
6th speed 1/min: 1000
Del.quantity cm³/: -
1000H.: (62,3...67,7)
7th speed 1/min: 500
Del.quantity cm³/: 55,5...58,5
1000H.: (53,6...60,4)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 1200
Del.quantity cm³/: -
1000H.

Idle delivery:

1st speed 1/min: 300
Del.quantity cm³/: -
1000H.: (16,5...24,5)
2nd speed 1/min: 330
Del.quantity cm³/: 11,0...17,0
1000H.: (9,5...18,5)
3rd speed 1/min: 400
Del.quantity cm³/: -
1000H.: 0...2,5

Automatic starting fuel delivery:

1st speed 1/min: 170
Del.quantity cm³/: -
ind. 1000H.: 80,0
2nd speed 1/min: 250
Del.quantity cm³/: -
ax. 1000H.: 55,0

Shutoff electromagnet:

Cut-in
min. voltage : -
Rated voltage : -

Mounting and assembly dimensions:

Designation
K mm : 3,2...3,4
KF mm : 5,7...6,0
MS mm : 1,3...1,55
SVS max. mm : 4,0
XK mm : 17,0...19,0
XL mm : 11,5...14,9

Remarks:

N22

10/10/10

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : STE 2,6K1
Edition : 16.12.86
replaces : -
Calibrating oil : ISO 4113
Injection pump : VE 3/11F1200 R263-1
Type number : O 460 413 007

Customer-specific information
Customer : STEYR

Engine : WD 311.85

Power k: 41

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1000
Setting value mm: 5,8...6,2

Supply-pump pressure:

Speed 1/min: 1000
Setting value bar: 6,2...6,8

Full-load del. w/out charge press.:

Speed 1/min : 1000
Del. quantity cm³/
1000H.: 78,0...79,0

Dispersion cm³/: 3,5
1000H.: (4,0)

Low-idle speed regulation:

Speed 1/min: 300
Del.quantity cm³/
1000H.: 11,0...15,0
Dispersion cm³/: 3,5
1000H.: (4,0)

Full-load speed regulation:

Speed 1/min: 1250
Del.quantity cm³/
1000H.: 45,0...53,0

Start:

Speed 1/min: 100
Del.quantity mind.
cm³/1000H.: 85,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 500
TD travel mm: 1,6...2,4
mm: (1,3...2,7)
2nd speed 1/min: 1000
TD travel mm: -
mm: (5,3...6,7)
3rd speed 1/min: 1200
TD travel mm: 6,9...7,7
mm: (6,6...8,0)

Supply-pump pressure characteristic:

1st speed 1/min: 500
Supply-pump pressure bar: 4,3...4,9
2nd speed 1/min: 1200
Supply-pump pressure bar: 7,0...7,6

Overflow quantity at overflow valve:

1st speed 1/min: 500
Overflow quantity cm³/10s: 41...83
(26...98)
2nd speed 1/min: 1200
Overflow quantity cm³/10s: 55...138
(40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 1350
Del.quantity cm³/: -
1000H.: 0...2,5

3rd speed 1/min: 1300
Del.quantity cm³/: 17,0...23,0
1000H.: (15,5...24,5)
4th speed 1/min: 1250
Del.quantity cm³/: -
1000H.: (44,5...53,5)
5th speed 1/min: 1200
Del.quantity cm³/: 74,5...77,5
1000H.: (73,3...78,7)
6th speed 1/min: 1000
Del.quantity cm³/: -
1000H.: (75,8...81,2)
7th speed 1/min: 500
Del.quantity cm³/: 72,5...75,5
1000H.: (70,6...77,4)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: 1200
Del.quantity cm³/: -
1000H.:

Idle delivery:

1st speed 1/min: 300
Del.quantity cm³/: -
1000H.: (8,5...17,5)
2nd speed 1/min: 330
Del.quantity cm³/: 3,0...9,0
1000H.: (1,5...10,5)
3rd speed 1/min: 400
Del.quantity cm³/: -
1000H.: 0...2,5

Automatic starting fuel delivery:

1st speed 1/min: 170
Del.quantity cm³/: -
ind. 1000H.: 85,0
2nd speed 1/min: 250
Del.quantity cm³/: -
ax. 1000H.: 65,0

Shutoff electromagnet:

Cut-in min. voltage : -
Rated voltage : -

Mounting and assembly dimensions:

Designation mm :
K : 3,2...3,4
KF : 5,7...6,0
MS : 1,3...1,55
SVS max. : 4,4
XK : 17,0...19,0
XL : 12,6...16,0

Remarks:

N25

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : VOL 3,6 0
Edition : 27.10.88
replaces : 8.83
Calibrating oil : ISO-4113

Injection pump : VE 4/11F1900 L108
Type number : 0 460 414 004

Customer-specific information
Customer : VOLVO-PENTA

Engine : TMD 8199

Power k: 67

TEST BENCH REQUIREMENTS

Calibrating-oil
return temp. °C
with thermometer : 40...48
electronically : 42...50

Inlet press., bar : 0.2

Calibrating nozzle-holder
assembly : 1 688 901 000

Opening
pressure bar : 147...150

Test inj. tubing : 1 680 750 017

Outside diameter : 6
x Wall thickness : 2
x Length mm : 840

Start of delivery
Prestroke mm : 0,2
(from BDC): +/-0,02/0,04

Injection-pump setting values
Test specifications in parentheses

Timing-device travel:

Speed 1/min: 1700
Setting value mm: 4,8...5,2

Supply-pump pressure:

Speed 1/min: 1700
Setting value bar: 6,4...7,0

Full-load del. w/out charge press.:

Speed 1/min : 1500
Del. quantity cm3/
1000H.: 59,0...60,0
Dispersion cm3/ : 3,5
1000H.: -

Low-idle speed regulation:

Speed 1/min: 325
Del. quantity cm3/
1000H.: 26,0...30,0
Dispersion cm3/ : 3,5
1000H.: -

Full-load speed regulation:

Speed 1/min: 2100
Del. quantity cm3/
1000H.: 35,5...41,5

Start:

Speed 1/min: 100
Del. quantity ind.
cm3/1000H.: 60,0

Inspection-pump test specifications
Test specifications in parentheses

Timing-device characteristic:

1st speed 1/min: 1000
TD travel mm: 1,7...2,5
mm: (1,4...2,8)
2nd speed 1/min: 1700
TD travel mm: -
mm: (4,3...5,7)
3rd speed 1/min: 1870
TD travel mm: 5,1...5,9
mm: (4,8...6,2)

Supply-pump pressure characteristic:

1st speed 1/min: 600
Supply-pump pressure bar: 2,7...3,3
2nd speed 1/min: 1870
Supply-pump pressure bar: 7,0...7,6

Overflow quantity at overflow valve:

1st speed 1/min: 600
Overflow quantity cm3/10s: 55...138
cm3/10s: (40...153)
2nd speed 1/min: 1900
Overflow quantity cm3/10s: 55...138
cm3/10s: (40...153)

Delivery-quant. and breakaway char.:

1st speed 1/min: 2260
Del. quantity cm3/ : -
1000H.: 0...3,0
2nd speed 1/min: 2200
Del. quantity cm3/ : 6,0...14,0
1000H.: (5,5...14,5)
3rd speed 1/min: 2100
Del. quantity cm3/ : -
1000H.: (34,0...42,0)
4th speed 1/min: 1870
Del. quantity cm3/ : 54,0...57,0
1000H.: (52,9...58,1)
5th speed 1/min: 1500
Del. quantity cm3/ : -
1000H.: (56,9...62,1)
6th speed 1/min: 1000
Del. quantity cm3/ : 58,5...61,5
1000H.: (57,4...62,4)
7th speed 1/min: 600
Del. quantity cm3/ : 49,5...53,5
1000H.: (48,1...54,9)

Zero delivery (stop):

Mech. shutoff:
Speed 1/min: -
Del. quantity cm3/ : -
1000H.

Electr. shutoff:

Speed 1/min: 2260
ELAB volt: -
Del. quantity cm3/ : -
1000H.

Idle delivery:

1st speed 1/min: 325
Del. quantity cm3/ : -
1000H.: (23,5...32,5)
2nd speed 1/min: 400
Del. quantity cm3/ : -
1000H.: 0...4,0
3rd speed 1/min: 500
Del. quantity cm3/ : -
1000H.: 0...1,0

Automatic starting fuel delivery:

1st speed 1/min: 350
Del. quantity cm3/ : -
ind. 1000H.: 55,0
2nd speed 1/min: 500
Del. quantity cm3/ : -
ax. 1000H.: 50,0

Shutoff electromagnet:

Cut-in
min. voltage : 10,0
Rated voltage : 12,0

Mounting and assembly dimensions:

Designation

K	mm	:	-
KF	mm	:	5,7...5,9
MS	mm	:	1,2...1,4
SVS max.	mm	:	3,4

Remarks: